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The Regulation of Architectural Competitions.

S the members of the Institute of Architects, or those who attend the special meetings called to consider professional questions (meetings which unfortunately are often very badly attended), are likely to be a good deal occupied in considering a revision of the Institute regulations in regard to the conduct of competitions, some remarks on the subject may not be out of place at the present moment.

It is desirable, in the first place, that there should be a distinct understanding as to what is the real object of any regulations amended and put forward by the Institute of Architects in regard to the conduct of competitions. On this subject it is best to state the plain and unvarnished truth, which we take to be this: that the real object of such regulations is, and always has been, the defence of the architects who compete. This has been at the bottom of the whole movement, commenced long ago and carried to a fairly general acceptance after so much uphill work, in favour of the appointment in all cases of professional assessors to examine the designs and make the selection. For many years competing architects had suffered under the feeling that, after giving their best efforts to produce a suitable design for the building put up to competition, they were in the position of having their designs judged of by committees which had not the requisite knowledge to rightly understand the merits of a design, and of often seeing the choice fall on a design which was by no means the best, but which probably captivated the committee by showy and effective drawing. That state of things it was which led to the demand for the appointment of professional assessors; and that was a movement solely in defence of the interests of the competing architects.

And that line, the defence of the profession from unjust treatment at the hands of competition Committees, is really the only logical and unassailable position for the Institute to take up. There appears to be rather an idea afloat now, that the Institute of Architects should take up the position of being anxious to befriend competition Committees by pointing out how they may secure the best design, and professing a desire, in the interests of architecture, to see the best design adopted. Of course we all desire the best interests of architecture; and no doubt regulations which would secure the probability that the best man wins would indirectly benefit architecture. But this paternal attitude of coming forward to put Committees in the right road to obtain good architecture is not likely to recommend itself to promoters of competitions, who will be rather likely to resent advice which they have not asked for; and, still worse, will perhaps think, or even say, that they see through it, and that this benevolent advice is only a cloak for an interference to protect the competitors. It is far better to have no such cloak, but to state the case openly. The really strong and unassailable position for the representative body of the profession to take up is this: we must have a competition conducted so that competing architects shall not be victimised; we have drawn up regulations which we believe will secure this, and if these are not complied with, we must request our members not to compete, or (if possible) prevent their competing. That is a perfectly clear position which everyone can understand and which no one has a right to complain of; and it is best that it should be clearly so stated. To go beyond that, and to profess a desire to assist the promoters in getting the best results out of a competition, is unwise and uncalled for; it is offering advice which has not been asked for, and which will perhaps not be regarded as entirely disinterested. If the promoters ask the advice of the President or Council of the Institute as to the conduct of a competition, so much the better; it is to be wished that they oftener did so. But the advice should not be given till it is asked for; otherwise it is an intrusion. But for the Institute to demand certain terms as the condition of its members competing is no intrusion; it is what everyone can understand and what no one can reasonably complain of; and that is the safe position to take up.

It is desirable that in any revision of the regulations there should be inserted an appeal to promoters of competitions to select an Assessor at the earliest stage of the business, and commission him to draw up the instructions to competitors. This unfortunately is seldom done, and it is difficult to get hold of Committees on this subject, because in many cases nothing is publicly known of the competition until it is advertised and the Instructions are already drawn up; and an Assessor appointed after that often finds himself bound by Instructions which are vague and uncertain in wording, which omit important points, or contain provisions which he would not have approved of. We have made some progress in getting the idea of Assessors pretty generally admitted; the next step is to get it into the heads of the building public that the Assessor should be appointed before and not after the Instructions are drawn up, and that he should draw them up.

In drawing up Instructions one of the most important points is to be clear and precise in definition, and to have no

vaguely-worded requirements which may be interpreted in two or three different senses. The propounding of a long string of questions by competitors is the sign of badly-worded Instructions. With properly drawn-up Instructions there ought hardly to be any necessity for questions, and the Assessor who has the fewest questions sent in is the one who has done his work best.

There have been several instances lately of very lax procedure by Assessors in respect of designs which have obviously gone beyond the cost stipulated in the Instructions. It is true that the stipulated limit of cost, in Instructions drawn up by Committees, is very often obviously too low for the work demanded, and that is another cogent reason in favour of the Instructions being drawn up in the first instance by the Assessor, who knows better what accommodation can be given for the money than the Committee can be expected to know. But if a limit of cost has been stated and a design manifestly oversteps it, it is no defence to say that it was the only good design, and that it is better to choose it and give the author the opportunity of modifying it into a more economical shape. There have been several instances lately in which this course has been adopted, and in our opinion it is indefensible. It is not only unfair to those who have kept within the limit, but it is setting up a loose standard of conduct in competitions; and if, as is often the case, the Assessor has been appointed or recommended by the President of the Institute, it is a reflection on the Institute. It is a most undesirable thing that a Committee should be able to say (or to think, if they do not say it)—"Here you send us regulations intended to secure a fair conduct of the competition, and the Assessor who is your own nominee throws them over." In fact, the very first duty of an Assessor ought to be to put aside and to rule out whatever designs are found to be manifestly transgressing any plainly stated condition in the Instructions, whether as to cost or in any other particular.

A suggestion that has been made that in the case of works of great architectural importance a jury of three Assessors should be appointed is well worth consideration, though we believe there are some members who object to it, for reasons that have not reached us. The decision in regard to a large number of designs for a work of national or municipal importance involves a very serious responsibility, from which a single judge may very naturally shrink, or may find a great difficulty in coming to a decision which will satisfy his own mind. But the three must be appointed *ex æquo;* the suggestion that was in the air some little time since, of a senior Assessor with two juniors to see that he did not overlook anything that the juniors admired, is a perfectly preposterous one, and no man who respected himself would accept the office of Senior Assessor in such a case.

It would be a very good thing if the principle could be definitely settled once for all, whether the Assessor in a competition is an adviser or an arbitrator. Most architects who go much into competitions seem to have settled it in their minds that he is an arbitrator, whose judgment ought to be final and binding on the promoters; though we observe that those who profess this faith most strongly are often quite ready to quarrel with the arbitrator's award and endeavour to upset it. With Committees composed of reasonable and well-educated men the position of adviser would probably always be sufficient, as they would be wise enough to take his advice. Considering, however, what many Committees are, it is probable that in many cases only the position of the Assessor as an arbitrator would induce them to accept his award. On the other hand, there is something to be said on behalf of those who are going to pay for and use the building, and who may be excused for thinking that they have a claim to some voice in the matter. We should be glad to have opinions on this point from any readers interested in the subject.

Lastly, we would recommend to all competitors the principle which rules in the cricket-field—"Do not question the umpire's decision." It is not good form.

THE LABOUR CONFERENCE.

THE Labour Conference held last week at Newport was attended by some 500 delegates, and the membership represented was 1,481,368, an accession of 550,000 members being caused by the affiliation of the Miners' Federation of Great Britain. The chief feature of this Conference has been the political nature of the resolutions and the proceedings, as the trade union element is becoming more and more absorbed in the political Labour Party, and those trade societies, if their leaders have their way, will soon lose their trade characteristics and become purely political organisations. At the special Conference which preceded the general Conference the decision of the House of Lords in Osborne's case was discussed, and it was unanimously resolved that the Trade Union Acts must be amended so as to annul the effect of that decision. The majority of the House of Lords in that case decided that the compulsory collection, and the administration of funds by the trade unions for political purposes was *ultra vires* the powers conferred upon them by the Trade Union Acts. Lord Shaw of Dumfermline, in his judgment, pointed out grave constitutional objections to the procedure adopted by the unions, but with that aspect of the case we are not concerned in these pages, but there are non-political grounds which render it most objectionable that the trade unions should make a compulsory Parliamentary levy, and although we have pointed them out on former occasions, we may shortly reiterate them. The trade unions in their capacity as trade organisations attempt to control all labour, and to intervene between employer and employed. In many districts it is impossible for a man to obtain work unless he consents to join a union, and compulsion, often more or less violent, is resorted to to compel him to do so. Similarly, pressure is brought to bear upon employers to prevent them from employing non-union hands, and strikes are resorted to if non-union men are engaged. How can this legalised compulsion be justified if, as the price of a man's being allowed to work, he is compelled to contribute to a political party irrespective of his own opinions? And how is this consistent with the Labour Party's ideal of a statutory right to work? It is to be hoped that the amendment of the Trade Union Acts to permit of such an injustice will be firmly resisted.

A resolution for the nationalisation of railways and waterways was passed without discussion, but a resolution for a general eight hours' day was not carried, the reason for this apparently being that it was coupled with an instruction which the Labour Party felt would hamper its discretion, viz., "That the Labour Party be instructed to oppose any Bill in Parliament conferring monopoly rights which does not include an effective clause restricting the hours of labour for those employed to eight hours a day." The grave difficulties which have arisen in Northumberland owing to the Miners' Eight Hours Act, where the history of the engineering dispute seems likely to be rewritten in connexion with the miners, may have had something to do with the attitude of the Labour Party towards this resolution, but the "Right to Work" resolution was carried, and the party have got to learn that trade will not be fostered or employment encouraged by restrictive legislation of this character. The statements recently made by the River Tyne Commissioners and at the meetings of some of the railway companies in connexion with the Miners' Eight Hours Act are deserving of study.

At the conclusion of the Conference the Chairman pointed out the inconvenience of the discussions at this Conference overlapping the discussions of questions at the Trade Union Congress, and he said the Trade Union Congress should discuss trade questions fully and adequately. This may be so, but, as we have pointed out above, the trade unions, by merging themselves in the politics of the Labour Party, are losing their individuality as trade societies and associating themselves entirely with the political aspirations of the Labour Party.

NOTES.

Royal Academy Lectures.

PROFESSOR BLOMFIELD commenced on Monday afternoon his series of four lectures on architecture, the subject being Philibert Delorme. He commenced by contrasting the condition of French architecture under Francis I. with that under his successor Henri II. Francis I. was a very gifted monarch with a great passion for art, especially for architecture, which he did all he could to encourage; but the drawback to the situation was that he imposed his personal taste and predilections too much on the artists, and thus art, though encouraged in a sense, was not sufficiently free to follow its own course; in fact, when he invited eminent artists from Italy he could not keep them; both Andrea del Sarto and Cellini rebelled and left him after a short time. Hence, when Henri II. succeeded him, a weak king who was totally indifferent to art

the situation had its compensation in the fact that he left things to the artists instead of interfering with them, and architecture was more free to develop according to the ideas of the architects themselves. Delorme, who was a man of strong character with an unbounded confidence in himself, became the leading architect of the time in France; and if he was not a designer of the first order, he was a very capable practical architect and had thoroughly studied his subject. Thus, in carrying out one of his first large palaces for one of the Du Bellays, finding that the site was all, to a great depth, made ground, in order to save his client's pocket he carried down a series of large piers till he got to a firm foundation, throwing arches from one to another at the top to form a base for the building; and though in the present day this was a very common method under such circumstances, in Delorme's day it was a great advance in scientific building. The circumstances of Delorme's career and his character were briefly sketched, and illustrations of some of his designs shown upon the screen.

The Development of Liverpool.

IN the paper read last week to the Liverpool Engineering Society Mr. John A. Brodie, the City Engineer, dealt at some length with the engineering aspects of various developments which have taken place in Liverpool and with other matters bearing on the future. While from the earliest times the houses were built to fairly regular lines on each side of the streets the work of paving was not considered as coming entirely within the jurisdiction of the engineer, for in the XVIth century it is recorded that an order was issued for the ringing of swine so that injury to the road surfaces might be avoided. Before the middle of the XVIIIth century the two main thoroughfares for traffic into the town were from the south by way of the bridge over the Pool at the end of Dale-street and from the north through Tithebarn-street, but these lines were merely bridle paths, and no accommodation existed for wheeled traffic. Those familiar with the Liverpool of to-day will fully realise the enormous strides made in the provision of traffic facilities during the last 150 years, as also in many other branches of municipal engineering discussed by the author.

Vibration in Buildings.

TWO INVESTIGATIONS by Father Guido Alfani, Director of the Ximenian Observatory, Florence, were recently undertaken for the purpose of ascertaining the effects of vibration in two buildings. One is the Palazzo Vecchio, concerning which the Florentine Municipal Council desired to know whether the firing of cannon in the vicinity would be harmful; and the other is a villa near the generating station of the electric tramways of Florence, the house being rendered uninhabitable by vibrations due to the operation of heavy machinery. In this case the owner sought to discover an effectual remedy for the nuisance. Father Alfani employed two forms of seismometers for measuring oscillatory movements in the buildings, one of the instruments being so sensitive that it was capable of recording the vibrations set up by the clock bells situated in the tower of the Palazzo Vecchio. Two varieties of vibrations were distinguished in the course of the investigation, one class comprising rapid short movements and the other slow and long movements. The former, including the effects of artillery, were not considered dangerous, as the forces brought into play were considerably less than the elastic resistance of the structure, being of far smaller importance than the effect of bell ringing. The second investigation proved that the vibration of the machinery was transmitted by the ground particularly in the direction followed by the cranks of the engines. The remedy adopted consisted in the digging of a trench across the direction of propagation to the depth of about 6 ft. below the foundations of the generating machinery. This well-known expedient is said to have proved quite efficacious.

Electric Clocks.

A PAPER on "Modern Electric Time Service" was read to the Institution of Electrical Engineers this week by Mr. Hope-Jones. He gives a useful *résumé* of modern practice in connexion with electric clocks. Those clocks which simply use electricity to provide their motive power are of little value. For accurate timekeeping it is necessary that all the clocks should be controlled by a standard clock. In practice there are two ways in which this is done. In the first method a regulator sends out electrical impulses at definite intervals, so as to correct the hands of the other clocks which are worked by their own motive power. In the second method the regulator or transmitter sends out electrical impulses every half minute which move forward the hands of the secondary dials. The latter method is now the more popular, and there are several hundreds of these circuits in London alone. The speaker showed how an experimental study of the nature of the electric impulses periodically sent along the line has enabled the working of the system to be greatly improved. The application of small rotary motors to winding turret clocks struck us as a novel and valuable application of electricity. The dangerous and cumbersome driving weights can now be removed, and the winding done by simply pressing a button. Bell hammers can also be actuated at once electrically, and thus the mechanical arrangements can be still further simplified. The lecturer gave well-deserved praise to the "free detached gravity arm," invented by Sir Henry Cunynghame, which has given such an impetus to electric time service. The prejudice against electric clocks which was aroused by the failure of so many systems in the early days, has not yet died away, and so manufacturers were warned not to cut prices by putting in inferior dials and cheap electric bell wires. Any installation which was not absolutely trustworthy would never give satisfaction.

Exhibition of Mahomedan Art, Munich.

DR. F. R. MARTIN, formerly an assistant in the Stockholm Staatsmuseum, and author of "A History of Oriental Carpets before 1800," has been appointed chief director of the above-named exhibition, which will be opened in the coming summer in the Theresienhöhe, Munich. The exhibition will cover a long period, beginning with the Sassanian Arts of the Arabs in Præ-Mahomedan times and extending to Indian Art under the Moguls, and to Turkish Art at the close of the XVIIth century. It will thus be illustrative of the Eastern Asiatic influence which, after the Mongolian invasions of the XIIIth century, became manifest in Persia, Syria, Armenia, and Asia Minor, and that of Oriental Art in Egypt, Russia, Poland, and Scandinavia, and of Moorish Art in North Africa and Spain. Some of the choicest exemplars will consist of a collection of Persian silk carpets, of the time of the Safavid dynasty, in the XVIth-XVIIth centuries, which have belonged for many generations to the House of Wittelsbach.

Low Side Windows in Churches.

WE have received a very interesting paper on the much vexed archæological question of the object of what are called "low side windows" (though they are not in all cases low) in mediæval churches, read before the Northamptonshire Architectural Society by Mr. Christopher A. Markham, F.S.A., Honorary Secretary to the Society. The paper deals especially with numerous examples in Northamptonshire, of which illustrations are given. Mr. Markham goes through all the suggestions, fourteen in number, which have been made and upheld as to the intent and purpose of these openings, and we agree with him in regarding the majority of them, at all events, as untenable and not explaining the facts. He upholds the explanation numbered third on his list, that they were for the hearing of confession from persons who, for some reason of church discipline, were not allowed within the church. This is a reasonable explanation for which a good deal might be said; but it does not explain the large number of cases in which the jambs of the windows are planned to afford a view in one special direction. From the Northamptonshire examples, it may seem that this is less often the case in that county than elsewhere; but there are many cases in which the placing and planning of these windows has obviously some relation to a sight-line in a special direction, and the confessional theory would not account for this. The author condemns restoring architects for glazing these openings, which were originally closed only by a shutter, and thereby destroying their character; but where a church is in use for modern worship this could hardly be avoided. Mediæval congregations may have been indifferent to draughts; modern congregations are more sensitive.

The Fire at Hertford House.

DESPITE its insignificant proportions, the fire which broke out and was promptly suppressed last week in the house containing the Wallace Collection may well serve as an additional warning against the employment of wood casing for electric wires. The fire to which we refer is believed to have been originated by a short circuit in the boiler-house, where a flickering light was observed by the

constable on duty. Prompt action averted any danger, and in five minutes the fire was extinguished. We understand that for some months past the trustees of the Collection have been asking the Office of Works to extend the metal casing system throughout the building, and trust that there will be no further delay. Wood casing is so convenient and so inexpensive that it is very largely employed by those who do not realise the imperfect protection afforded thereby against damp and mechanical injury to wires. If properly installed there is nothing safer than electric light; but, judging by recent experience, it is evident that many people omit to take the precautions necessary to insure safety.

Pie-corner, West Smithfield.

AN old landmark will disappear with the demolition of the "Fortune of War" public-house, which stands at the corner of Giltspur-street and Cock-lane, in that part of West Smithfield which was formerly known as Pie-corner. Stow says that Pie-corner was "so-called of such a sign, sometime a fair inn for receipt of travellers, but now divided into tenements." It was latterly famed for its cooks' and dressed meats shops. At Pie-corner remained, until 1816, the figure, on a bracket, of a very fat boy, which was set up, with an inscription, to commemorate the arrest of the Great Fire of London at that spot. The figure was then fixed on the front of the tavern. The carving, of which there is an engraving by J. T. Smith, will, it is understood, be removed to the Guildhall Museum.

Bungalows on the Lea, Essex.

AT the last meeting of the Epping Rural District Council it was resolved to instruct the Council's Surveyor to prepare a Report in respect of the current indiscriminate erection of riverside bungalows in the neighbourhood of Roydon and Nazeing. Mr. R. F. Bury urged upon the Council the advisability of obtaining powers to regulate or restrict the erection in future of those and similar structures, and to make due provision for sanitary requirements. Mr. Bury represented that under prevalent conditions the amenities and residential value of surrounding properties are suffering depreciation, and that the rapid increase of the buildings in question will at no distant time render necessary the adoption of a special scheme of sewerage.

THE ROYAL INSTITUTE OF BRITISH ARCHITECTS.

THE usual fortnightly meeting of the Royal Institute of British Architects was held at No. 9, Conduit-street, W., on Monday, Mr. E. George (President) in the chair.

Life and Work of George Frederick Bodley.

Mr. Edward Warren, F.S.A., read a paper on "The Life and Work of George Frederick Bodley," of which the following is an abstract:—

"George Frederick Bodley, who was descended from the family of Sir Thomas Bodley, of Oxonian fame, was born at Hull in 1827. While he was still a boy, his father, Dr. Bodley, moved to Brighton, and it was in that town that he first met Sir Gilbert Scott, whose pupil he subsequently became. Work came to him almost at once upon the expiry of his apprenticeship, and his first commission was to add an aisle to a church at Bussage, in Gloucestershire, for Thomas, the brother of the better-known John Keble. This was followed by a constant flow of work, almost entirely upon churches.

His first complete church, that of St. Michael, at Brighton, shows an extreme severity of form and detail, and with a character suggesting the early French rather than the early English type. The interest of this first fresh work is enhanced by the co-operation of another youthful master-hand—William Morris contributed the beautiful and extremely characteristic glass that fills the western windows. Within the next few years he was constantly busy with new churches—and of these, St. Martin's at Scarborough is one of the most interesting, not only for its intrinsic beauty and distinction, but for the fact that the architect here found a field, in the decorative accessories, for the co-operation of his friends and fellow enthusiasts, Rossetti, Madox Brown, Stanhope, and again William Morris. In character and detail this church belongs distinctly to Mr. Bodley's early manner, showing a decided leaning towards the severity of XIIIth century Gothic, and still with a flavour of France, though that is less pronounced than at Brighton.

For the first few years of Bodley's small but steadily-maintained practice, he worked single-handed, or with occasional assistance only. Commission followed commission at comfortable intervals, without rush or hurry, and though requiring, as he frequently said, very strenuous days and laborious nights at times, leaving upon the whole ample time for thought, for music—to which he was always passionately devoted—for reading, for the enjoyment of the society of his friends, amongst whom were conspicuous the various members of the Pre-Raphaelite Brotherhood. As work increased upon his hands he began to find the need of skilled assistance, and turned to his friend, Thomas Garner, who had followed him as a pupil in Scott's office, and who was beginning to develop a small practice of his own in his native county of Warwickshire. Mr. Garner, at first, worked for him in the ordinary sense as an occasional assistant; but his abilities, enthusiasm, and remarkable knowledge made of him an assistant quite outside any ordinary sense, and his co-operation, though for some time without partnership, grew steadily closer and more important. At this middle period a marked change had been taking place in Bodley's handling of Gothic architecture. The French feeling had waned, and the type had become more national. If his early taste, indeed, inclined towards French types, that of his future partner was pronouncedly English; but the change alluded to had set in some time before their conjunction, and the church of St. Salvador's, Dundee, seems to mark a middle point in this conversion. For the last thirty years Mr. Bodley's Gothic has always been, in so far as constructive detail is concerned, in the 'decorated' manner; but that manner has been so intensely perceived and assimilated as to become a natural, almost intuitive, expression. His strong individuality shines through his adoptive XIVth century, as Wren's shone through his adoptive Palladian style.

The co-operation with Mr. Garner began, without actual partnership, upon the church of All Saints, opposite the gate of Jesus College at Cambridge, and whose shapely spire is well known to all frequenters of that city. A formal partnership was entered into in 1869, and amongst other work which it immediately shared was the church, initiated by Bodley, of St. John, at Tue Brook, Liverpool, a church of distinctly English XIVth-century character, not elaborate in structural detail, but very elaborately furnished and decorated. It has intensely the sense of style, less archæological than personal. It exhibits a deliberate departure from the conventional method of contemporary 'Gothicists' in the 'later' manner, adopted for the screen, organ-case, and other furniture, which suggests the XVth rather than the XIVth century. The invariable delight in colour, natural and applied, is apparent in the use of stone, woodwork, hangings, glass, pigments, and gilding. No detail has been overlooked; the finish is careful and minute. It is safe to say that in the enthusiastic, scholarly, and patient completion of every accessory, ceremonial or decorative, of a church interior Messrs. Bodley & Garner stood in the early 'seventies' absolutely alone; and it is in a very large measure to their example that the greatly-increased attention now bestowed throughout the country upon such accessories is due. The Tue Brook Church was soon followed, and eclipsed, by two others, which still remain pre-eminent in character and prestige amongst the many subsequently designed by the same architects. These are the churches of the Holy Angels, at Hoar Cross, Staffordshirre; and St. Augustine, at Pendlebury, near Manchester. The church at Hoar Cross is, with all its wealth of internal adornment, a village church, and intended for small congregations. The whole building is so harmoniously coherent, so obviously inspired by a single aim and view, that it is difficult to credit its dual authorship; yet the fabric is the result of the closely-united work of the partners, who, however, concentrated their particular attention in the design of the interior, upon individual parts. The nave is, to a great extent, Mr. Bodley's, while the chancel is chiefly Mr. Garner's work. St. Augustine's, Pendlebury, is in plan, purpose, and constructive conception, as different from its contemporary as it well could be. It is situated upon a flat site amidst the unlovely cinderous surroundings of a Manchester suburb. Its walls are of brick, and stone is used for the dressed work of doors and windows, for columns, arches, and the decorative bands that add to the distinctive character of the exterior. The plan is a long parallelogram, embracing nave and chancel, without any structural division between them. The aisles are mere passages pierced through the deep internal buttresses that resist the thrust of the waggon-vaulted timber roof. A striking external feature of the chancel is the convergence inwards of the north and south walls, which accounts for the termination of the passage aisles. This was, I believe, the first modern instance in England of the use of the pierced internal buttress.

The school-board offices on the Thames Embankment, begun in 1873, was intended as a portion of a final scheme. It is distinctly French in feeling, and that character, probably suggested by its environment, falls in, not unpleasantly, with the somewhat Continental impression of the tree-lined highway that it faces. In this instance I believe I am safe in saying that for the planning of the structure and the design of the river front Mr. Garner was mainly responsible, while Mr. Bodley devoted himself more especially to the decorative finish of the interior.

No indication of their mutual work would be complete without some notice of the collegiate work at Oxford and Cambridge which has so greatly added to the high reputation achieved elsewhere. In Oxford they made their beginning, and their mark, at Christ Church College, with their addition to the library and the great tower that stands in the south-eastern corner of the principal quadrangle, known as Tom Quad, and rises over the well-known and splendid old staircase leading to the hall, and which, with its slender central shaft and fan-traceried vaulting, is one of the prime architectural glories at Oxford.

Few things could better illustrate the fine adaptive instinct and sense of appropriateness shown by these gentlemen in their additions to old buildings, than their handling of this corner of a college quadrangle. It was no easy task to hit the happy mean of height and mass for a tower that should

neither do hurt to the fine proportions of the Hall nor lessen in effect the low spire of the cathedral. The strong, quiet, oblong mass is so thoroughly proportioned to its place, so thoroughly moulded to the ancient substructure upon which it stands in unobtrusive coherence, that it is readily accepted as an integral and imposing feature of the finest quadrangle in Oxford.

This work at Christ Church was closely followed by another addition to another college, and the 'Master's Lodge' at University College was built between the years 1876 and 1879. The scaffolding had barely been removed from it when the foundations for a newer and larger building, this time at Magdalen College, were begun, in the year 1880. This, though now forming a conspicuous portion of the College, is an entirely new and distinct building, known as St. Swithin's Quadrangle, and was entrusted to Messrs. Bodley & Garner, after a competition, in which Messrs. G. E. Street and Basil Champneys, of London, and Mr. Wilkinson, of Oxford, took part. It consists of living-rooms for fellows and undergraduates, and of lecture-rooms.

The late XVth century manner of the college has been frankly accepted. At Cambridge Bodley added new and distinct buildings to two colleges—'King's' and 'Queens'—at the former he has placed, on the river front, facing the 'Backs,' the incomplete quadrangle known as Bodley's-buildings, and which we illustrate. Built of the pleasant-looking, buff-coloured Ketton stone, roofed with grey stone slates, planned with the traditional sequence of staircases, carefully studied in proportion, and delicately and characteristically refined in every detail; this building, even in the inevitable newness of its early years, forms an harmonious adjunct to a college of exceptional dignity and importance.

1886 brought Mr. Bodley an opportunity in many ways similar to that offered by Hoar Cross. This was the new church designed by him for the Duke of Newcastle at Clumber, near Worksop. Like that at Hoar Cross, the Clumber Church is small, stone-built, of simple traditional plan, and very solidly constructed. Clumber Church indicates a point of departure, a cessation of the real collaboration of the partners. Though they continued their dissociated labours side by side in the two old sets of chambers on the first floor of No. 7, Gray's Inn.

The ten years between 1885 and 1895 saw at least as many new churches, large and small, in town and country, begun and completed by Bodley—Eckenswell, Horbury, Skelmanthorpe, Warrington, and Danehill, are all small churches, the last of singular beauty, and perfect adaptation to its site, on a Sussex hilltop; Epping, Hackney Wick, Norwood, Branksome, Bournemouth, and Cowley, Oxford, all town or suburban churches, are of considerable size as churches go in England. In ecclesiastical work Bodley adhered, wherever and whenever possible, to his own version of the Gothic manner; but in civil or domestic work, except in the modified forms of Gothic which he felt to be appropriate to collegiate work, he worked always in equally personal and varied versions of the various types of the English Renaissance. His strong leaning, however, was always towards Gothic. It was a matter of faith, of profound personal conviction—a conviction which strengthened and deepened with advancing years, and in which, to the end of his long life, he never wavered.

Great honours and great opportunities came to him very late in life. One of the greatest opportunities indeed, the more is the pity, close at the end. In 1906, the year before that of his death, came the remarkable evidence of American appreciation in the commission to design the cathedral for Washington, in conjunction with his old friend and former assistant, Henry Vaughan, of Boston. This was quickly followed by the placing of another American cathedral, that of San Francisco, in his hands. In the autumn of 1906 he journeyed out with Mr. Cecil Hare, his friend, assistant, and ultimately his partner, to the United States to inspect the sites of the two great churches, and to make preliminary arrangements. Upon his return to England, and while employed upon yet another remote cathedral —in India— he at once began the designs for Washington and San Francisco. He was much hampered by ill-health in the spring of the following year, but managed nevertheless to complete his designs, working to a great extent in the beautiful old stone manor house of Water Eaton, near Oxford, which he had taken in 1906, and where he was to end his days. He was destined never to witness even the actual beginning of the American buildings, but left the drawings in a well advanced stage of preparation.

No just estimate of his character or attainments could be formed without intimate acquaintance, and he was not easy to know. Retiring and indeed somewhat shy, self-contained and introspective, his external manner, albeit invariably courteous to all alike, was frequently somewhat aloof and apt to impress strangers as reserved and rather cold. He did not, as a rule, make friends easily or quickly, but once made he retained them, and their number was not a few. Ready, expressive, and apt in conversation, and frequently witty, he was a diffident speaker in public, and shrank from all public speaking. His conspicuous professional success owed nothing to business habits, it was won in spite of their default, for a worse man of business in the usual sense it would be impossible to find. He detested accounts and kept none; he detested business letters, and frequently delayed answers to important communications—when he answered at all—for weeks or months. In the carrying out of a design he had set his heart on he was obstinate, nay obdurate, and he always ended by getting his own way in the long run—and the run was sometimes a matter of years. He has been called a copyist. Nothing could be farther from the truth. Except occasionally in minor details, he never copied. He possessed remarkably few architectural books; his professional library, indeed, would have been modest for a beginner. He had assimilated and made his own certain architectural phases, he had seen and studied many buildings, and his derivations from those sources were prompted and refreshed almost entirely by his marvellously accurate and retentive memory—a memory the like of which I have never met in anyone else. In his youth, even during his pupilage, he had sketched but little, in spite of constant urging; in his later years not at all. His method of studying an old building was, as regards the exterior, to borrow a chair, which he carried from point to point, during the contemplative smoking of a cigar; when the cigar was out, he went inside, and, minus the tobacco, continued the contemplation. Yet he would remember the building, even to its details, for the rest of his life. Of drawing generally, as applied to architecture, he used to say that we all draw too much; and that with one vernacular style, and workmen who understood it, hardly any drawing would be necessary. He never faltered from his ideals; he had ever the courage of his opinions; his enthusiasm and his energy endured to the end."

Professor F. M. Simpson wrote, expressing his regret at being absent, and said: "Mr. Warren's paper, however, is so complete, and his appreciation of our old master's work so happily and sympathetically expressed that little or nothing is left to be said. One or two minor details occur to me. Mr. Bodley was, I believe, Sir Gilbert Scott's first pupil at the time when I have always understood Street was his assistant. The number of Scott's pupils was very great, and it would be interesting if somebody would compile and publish a complete list. His two sons, George Gilbert and John Oldrid Scott, Bodley, Garner, J. J. Stevenson, Micklethwaite, Johnson, of Newcastle, Ferguson, of Carlisle, Austin, of Lancaster, Hodgson Fowler, of Durham (the four men who twenty-five years ago practically divided the work of the north between them), Mr. Somers Clarke, and Mr. T. G. Jackson, if I remember rightly, were all pupils of his. Mr. Warren mentions the low but bulky tower at the corner of the Town Quad, Christ Church, Oxford. This was designed to carry a large covered wood lantern somewhat on the lines, but not a copy of the one on the top of the belfry at Calais. The lantern is shown on some of the original drawings, and also in the water-colour perspective made by W. H. Brewer. The intention accounts for the lofty proportions of the angle turrets of the tower which rise above its parapet, and appear in consequence of the omission of the central feature too high—or so Bodley always said. Mr. Warren makes a slip in saying that no award was ever made in the first Liverpool Cathedral competition. Sir Wm. Emerson's design was placed first, and Mr. James Brooks's second. I can endorse his remarks about Mr. Bodley's letters — they were always delightful. I am reminded of one as I write now from my little cottage in Sussex, a mile and a half away from Danehill Church. I wrote Mr. Bodley, and said I had planned it so that as I entered the front door and looked across the hall through the garden door the centre of the view was his church. His reply was characteristic. 'I like to feel that you will think of me in your going or in your coming in.' The interior of this church with its organ on the chancel screen is delightful. As Mr. Warren says, Bodley was not business-like. He would keep clients waiting for months. Years ago, when I was measuring up the curious chancel and screen of Great Barfield Church, Essex, the clergyman told me that he had been waiting for a design for the reredos which he had asked Mr. Bodley to make for considerably over a year. I mentioned this when I returned to town, but no design was sent during the six months or more that I remained in the office."

Mr. G. Fellowes Prynne, in proposing a vote of thanks to the author, said they had all no doubt seen many of Bodley's beautiful buildings, and the care shown in every detail, and the gentle treatment he had shown in his restoration work, marked him out as essentially a man who thoroughly loved his work and entered into every single detail of it with the greatest sincerity. First and foremost he thought they must think of Bodley as a great colourist. He broke away to a very great extent from his immediate past traditions. It would be folly to say he did not follow the traditions of mediæval work. In doing so he did wisely. But his following was no slavish following either in his building or his decoration. Bodley's perfect genius and sympathy with colour was shown in almost every church with which he had to deal. He did not seek for mere effect and originality, but his one wish was rather to make his colour emphasise the detail—to make one feel as one entered the church that it was all one whole. In every phase of his work this was noticeable. Throughout there was wonderful delicate refinement and quiet feeling and perfect harmony. Those who had been to the church at Hoar Cross must have felt this on entering. There the colour was not forced on one in the least, but blended perfectly with the building. He (the speaker) thought they could all agree that they did feel the want of colour in their buildings. No country could possibly want more colour than ours, and yet in no country was it more difficult to educate the public mind to the want of colour. Until just lately they had been content with the cold bareness of their churches, and many people still thought there was an intrinsic beauty in plaster, and a mere white and black decoration. They saw in the early efforts of men like Burne-Jones, Rosetti, Morris, Madox Brown, Butterfield, and others,

all aiming to get more colour, more warmth, more devotional feeling into the churches, and this was but a stepping-stone to what he hoped eventually they would come to. But no one had done more in that direction than Bodley—he seemed to have gone further than most of his fellows were able to go, and certainly seemed to have been more successful in carrying the decorations to a beautiful end. Bodley was certainly fortunate in many ways; and firstly, in his early training when he was mixed up so closely with the Gothic enthusiasts. He was also fortunate in having private means, for it made him independent of his clients. That might not always be a good thing, but with Mr. Bodley he thought it was. Certainly in the present day they had to take more care in answering the letters of clients and in getting out their work more quickly than Bodley did. One thing which they must remember, for it spoke of the master, was the loyalty of his pupils. The letter from Professor Simpson showed this. They all regretted that an able man like Skipworth, whose designs many of them could remember, had been cut off so soon, but they could congratulate themselves that York Minster had been placed in the able hands of Mr. Walter Tapper. One matter which Mr. Warren had not touched upon (and perhaps quite rightly) could not be lost sight of, because he could not help thinking it was the thing which gave tone and feeling and power to the work of many church architects: Mr. Bodley was an ardent churchman, and the best church architects of the last century were all ardent churchmen. He had only to mention Pugin, Bentley, Street, and Butterfield for them to realise how the great underlying principle behind their work made itself felt.

Mr. Walter Tapper, in seconding the motion, said that the love and reverence which showed itself in every line of the paper was echoed in the heart of every assistant and pupil of Mr. Bodley. Reference had been made to the feeling which prevailed that Bodley could not draw, and in the sense that they understood drawing nowadays he could not. No elaborate geometrical drawings ever came from him, but they had only to look at his earlier drawings and his later sketches to see what a tremendous artist the man was; and he remembered Bodley saying to him: "It is not what you put on paper, but it is what you put on your brain." He remembered Bodley giving him the dimensions of a building before he had actually put a line to paper. On a Saturday morning after the assistants and pupils had left, Bodley would sit down, and when they came back on Monday morning they would find a big church, all to scale and with wonderful full-sized details, and all this would be done on the Saturday afternoon. It was simply putting down what he had clearly in his mind before he touched pencil and paper. Garner was a great draughtsman, and made beautiful details and wonderful sketches. Mr. Bodley, on the other hand, was hardly a draughtsman in the sense in which they spoke. Even for dimensions he would think the thing out and tell one the size of things, and the general proportions of buildings, which was a thing which few men so far as he had met them really understood. This always seemed to him a sign of great creative genius. Of course the medium by which he expressed his ideas on paper were not such as one would recommend to a young man to-day, but the end of it all was really a most artistic drawing. He (the speaker) was with Bodley eighteen years, which he believed was longer than anyone else, and during that time he never remembered an unkind word from him, and it would lead them to understand the love and reverence which his assistants and pupils had for the man.

Mr. Longden, speaking as a personal friend of many years' standing, said that in his personal appearance and in everything about him Bodley was an artist. He was not only a fine builder but he had the quality of making everything beautiful, which was so uncommon. Mr. Warren had told them that Bodley had an admiration for the work of Butterfield. Butterfield built the church of St. Alban, Holborn, and Bodley was afterwards asked to design a reredos by the second vicar. Butterfield, who was still living, had not got on with the first vicar, and Bodley said: "Mr. Butterfield is living and I cannot interfere with his work." Afterwards, when Butterfield was dead, Mr. Bodley undertook the work.

Mr. Maurice B. Adams said the churches they had seen were built on flat sites, but the first church Bodley built was on an extremely difficult site, and whatever the faults of St. Michael's Church, Brighton, might be, one of its greatest points always to him seemed to be the way in which the architect made it rise out of an extremely sloping site. The approach at the west end looking towards the south necessitated a large number of steps which had been done quietly but in a dignified manner. Its vast breadth of brickwork was somewhat relieved by what was called the streaky bacon style, which Mr. Butterfield so much encouraged, and the tracery of the windows which otherwise would have appeared coarse seemed to have been thoroughly overcome by the broad, quiet treatment of the aisle. The church had been added to since, and Mr. Bodley always regretted he could not do the work; but, when they studied what had been done since, they would see what a master Bodley was in the initial stage. Allusion had been made to the church at Kensington Gore as showing somewhat attenuated proportions in which he thought possibly Bodley was justified, but in looking at the Church of St. Faith, Brentford, he was struck with the juvenile enthusiasm with which the whole thing was inspired. That a man of the years of Mr. Bodley could design such a church as that appeared to him to be wonderful. It was a quiet, somewhat unimportant church, but a more dignified building he never saw. The whole manner of its composition, the leading up to the altar as the centre of everything, showed the master's hand quite as much as anything they had heard of that evening. With regard to the planning of all these buildings, what a change Mr. Bodley's life covered! All through the development of the Gothic revival he applied himself to the design of buildings to bring the community to a better sense of what worship was.

The vote of thanks having been passed,

Mr. Warren, in a brief reply, said several points had been brought out which he was fully conscious he had omitted to deal with, owing to want of time. He had mentioned thirty or forty churches, but Bodley built many more. The output of his life was extraordinary. He once asked him how many churches he had built, and all he could get in reply was, "Not a great many." He supposed Bodley thought that sixty or seventy new churches and a hundred alterations was not a great many.

THE ARCHITECTURAL ASSOCIATION THIRD SPRING VISIT:

CENTRAL Y.M.C.A., TOTTENHAM COURT-ROAD.

THIS building, which was visited on the 12th inst., is a memorial of the life and work of Sir George Williams, the founder of the Y.M.C.A. It stands upon an island site of 28,124 ft. super., and will accommodate the social, educational and athletic departments of the Association, with residential quarters for about 230 young men and the managerial staff. On the lower floors the whole site is covered, but the building above develops into a hollow quadrangle with a central cross link dividing the enclosed space into two areas. In the internal angles of the quadrangle will be lavatory accommodation on all floors. The kitchen occupies the central link at the third floor level, above which only the enclosing buildings are carried up, leaving the central space entirely open.

The principal entrance is in Great Russell-street, and the reception and social rooms—comprising a lounge, reading, games, and social rooms, restaurants, a large hall with gallery, to seat 780, a small hall to seat 250, and various meeting-rooms and offices—will be upon the ground and first floors. The second floor is to be devoted to educational work, with class and lecture rooms, library, photographic-rooms, laboratory, etc. The third, fourth, and fifth floors will be entirely residential. In the basement is the physical section, including gymnasium, swimming-bath, rifle range, and bowling alley; also the boiler-room and coal stores. The frontage next Tottenham Court-road is set apart on the ground and basement floors for five shops.

The building is being constructed with external walls of brickwork in cement, faced next Tottenham Court-road and Great Russell-street with Portland stone, and next Bedford-avenue and Caroline-street with 2-in. red Erith bricks between stone corner pavilions. The internal construction throughout is being carried out in reinforced concrete on the Hennebique system, by Messrs. Holloway Bros. The construction will be left exposed and plastered in most cases. The architect, Mr. Rowland Plumbe, by whose kind permission the visit was made, was unable to be present, and members were conducted about the building by Mr. Mummery. The work is just rising above the ground floor. Messrs. John Greenwood, Ltd., are the general contractors.

BRITISH MUSEUM EXTENSIONS.

On reaching the fine new front of the British Museum next Montague-place members were received by Mr. Theodore Fyfe, who has been in immediate supervision of the work for the architect, Mr. J. J. Burnet, of Glasgow. The extension consists of a range of public galleries and stores, having a frontage of about 380 ft. and a depth of about 60 ft., with a connecting building joining the present north reading-room, and a new secondary staircase between. The new public galleries are on the ground and top floors, though the former will probably be used at present only for book storage, and not thrown open until the larger scheme for the completed museum, of which this building forms only a part, has been executed. An independent boiler house (to which the total engine and boiler power required for heating and ventilating the whole museum may be ultimately transferred) is in course of construction in the courtyard east of the staircase block. The chief interest of the new building is the exceedingly sympathetic handling of Greek detail shown in the Montague-place front. It was, of course, essential that the work should harmonise with the existing building, with which it will eventually be brought into direct relation, and this could hardly have been better done. A most interesting series of drawings was on view in the office on the site, including some beautiful shaded elevations of the severely-refined front, with its slightly battering corner towers and fine Ionic order. The capital, of which both the plaster model and examples in several stages of completion were closely examined, derives from those of the Erectheum, but contains several novel features, including a delicately-enriched torus above the echinus, and a swelling forward of the dipping fillets between the volutes on to the circular part of the cap below. In its present pristine whiteness its detail tells admirably from below.

Considerable interest was taken in the skeleton steel travelling crane with double jib, which has been devised by the contractor, Mr. W. E. Blake, of Plymouth, to meet the exigencies of this long front, so much beyond the reach of the ordinary fixed "Scotchman."

The road-remodelling facing the new building promises well, but might be even better if the space now cleared could remain open as a garden.

PARISH CHURCH, BEDLINGTON.—The parish church of Bedlington is to be restored, at a cost of 2,500*l.*, under the direction of Mr. A. B. Plummer, Diocesan Architect for Newcastle.

THE CARPENTERS' HALL LECTURES:
NATIVE CRAFTSMANSHIP.

THE fifth lecture of the present series of lectures on "Arts Connected with Building," arranged by the Carpenters' Company, was delivered in Carpenters' Hall, London Wall, E.C., on Wednesday last week, when Mr. Arthur Stratton, A.R.I.B.A., lectured on "Native Craftsmanship in Timber, Brick, and Stone Before the XVIIIth Century." Mr. J. Willson, J.P., Past-Master, presided.

The lecturer said it was always inspiring to be reminded of the wealth of native craftsmanship in our own country, and it would be his endeavour to show how the English craftsman handled the three building materials with which they were most conversant—*i.e.*, timber, brick, and stone—at a time when the glorious traditions of English craftsmanship were still being handed on, unfettered by the overpowering presence of any particular individual, who, by producing a set design, subjected all the workers engaged in its execution to the materialisation of his ideas. For that was what had happened ever since the art of building had been led to depend more and more upon the professional architect. With the Renaissance came this rise of the individual designer, but before that far-reaching movement swept over the land the building arts were safe in the keeping of the craftsmen and their Guilds, and the men who conceived the completed form of the structure as likely as not worked with their own hands in its actual execution. At any rate, there was little doubt that such was the case in the building of houses. When one thought of the dangers to which the house was subjected all through the Middle Ages, it was no wonder that provision for means of defence played so important a part in the disposition of dwellings and tended towards a greater solidity and less display of decorative detail than was quite admissible in the church fabric, with its comparative immunity from attack. But the men who were engaged in building the church no doubt very often reared the manor house near by, and traditional methods which had been handed down from father to son through generation after generation, were as applicable in the one case as in the other. But it was not until the wonderful enthusiasm for church building which had characterised the Middle Ages, had, to a certain extent, abated, that the whole-hearted attention of craftsmen was directed towards the erection of houses that could be considered as dwellings as distinct from strongholds. Consequent upon the further check given to church building by the suppression of religious houses under Henry VIII., and the confiscation of church revenues, a burst of building activity found expression in countless houses, great and small, all over the land, which gave opportunity for carrying on crafts too well established and too full of vitality to suffer any serious rebuff. It had been argued that the arts of England were becoming effete at the time that this summary check was given to church building in the early part of the XVIth century, that decadence had set in, and that nothing short of a wholesale importation of new forms and ideas could stop its downward trend; but there was good reason to believe that, had not something like a new character been given to the building arts as a result of the spreading of the Renaissance movement to our shores, fresh spirit and renewed energy would have been acquired from internal sources, and that the native craftsmen would have even exceeded the high pitch of excellence to which they had attained by the time that this influx of foreign ideas and foreign craftsmen deterred them from working further on their own lines. It seemed to him that it was very difficult to detect lack of initiative, or lack of skill in execution, in the domestic work of the English builders. All through the period when native craftsmanship was at its best, builders invariably used local materials, and very rarely were materials native to one district carried into another, where they would have very likely looked out of place and inharmonious with their surroundings. To this acceptance of local materials we owe the great variety in design and colour of buildings in different parts of England, and to this much of their interest and charm was attributable. When good building stone could be quarried in abundance, as, for instance, in the south-west of England, in Derbyshire and Yorkshire, it was rare to come across a homestead which did not present quiet stone walling, mullioned windows, stone gables, and stone-covered roofs. In the eastern counties, where little stone was to be had, but a plentiful supply of clay, we found beautiful brick houses with every member carried out in that material, or with the more finished parts executed in wrought stone. In Norfolk, Suffolk, and parts of Wiltshire, flint was turned to good account; while in the thickly-wooded counties of Kent, Surrey, Shropshire, Cheshire, and parts of Lancashire, from the excellent timber an entirely different system of construction resulted in the picturesque half-timber houses with bright-tiled roofs, which were one of the special glories of England. Nowhere could the unlimited resources of house builders be seen to greater advantage than in the homestead built by the native craftsmen in our own country. Progress never halted, and the same types and modifications of types seemed to have been arrived at all over the country by workers who were impelled by the one dominating desire to build beautifully and well. There could have been no direct communication between workers scattered over such a wide area; yet, allowing for differences of material and local influences, they seemed to have arrived almost simultaneously at the same forms, and to have expressed themselves in the same language.

The lecturer having shown some interesting slides, said that brick was long held in little repute as a building material in this country; it did not seem to have been generally regarded as worthy of careful and delicate handling much before the period when the extraordinary impetus was given to house building of which he had spoken. From that time builders in the south and east of England relied upon it for many of their largest and most splendid undertakings, to such an extent that the mention of a Tudor house to many minds at once suggested a brick one. Nevertheless, the limitations of that material for all purposes, from straightforward walling to decorative details, had to be realised before really good work could be carried out in it; and except in districts where stone was very scarce indeed, one rarely found brick used exclusively. The bricks in these houses varied in size considerably, ranging from 12 by 6 by 3 to 9 by 4½ by 1½, which was perhaps the most satisfactory dimension of all. Whereas a large unbroken surface of stone walling was not without a dignity of its own, a large surface in brick would, as likely as not, prove to be somewhat monotonous unless interest were imparted to it by bringing forward some parts and recessing others from the general wall face in order to get relief, and with it a play of light and shade. When building exclusively in brick we found that the use of such a small material very often governed the design to the extent of breaking up surfaces, so as to obtain an effect of lightness; but when, as was often the case, it was not desired to sacrifice the breadth of wall surface it was made more interesting by the very simple expedient of building in patterns in a different coloured brick from that used for the general mass of the walling. The variety of the patterns evolved was great, but all the earliest and most effective were very simple, consisting, for the most part, of diagonal lines crossing one another so as to form a diaper ranging anywhere from about ten to thirty courses in height. These were all formed of headers built in, if possible, without upsetting the English bond, which was mainly used; but it was often necessary to interrupt it somewhat. Care was always taken not to overdo this use of patterned walling, and on no account was the same pattern carried uninterruptedly over the whole surface, but the dark lines were allowed to melt away, and the pattern disappeared, and was picked up again in the middle of a diamond in what appeared to be the most unstudied manner; yet it was a nice feeling for texture which prompted the bricklayer to build in another line of dark headers or to leave them out, and he seldom did wrong.

Another and more constructive method of relieving large surfaces and marking horizontal divisions, was to be seen in the delicate brick trefoil-headed corbel courses which were introduced with such admirable effect on many gateway towers. These were no doubt in the first place suggested by the overhanging parapets of castellated buildings. A difficulty which had beset brick builders in other countries than our own as to how to finish projecting arcading and corbel courses at external angles, was obviated in most of these gateways by recessing the face from which the corbel springs the exact amount of the projection of the corbelling, so that a flush face was obtained above it.

In nothing was the skill of the brick builder seen to greater advantage than in the chimney stacks which rise above the parapets of these gatehouses, and above the roofs of houses large and small. The variety of design was only equalled by the skill in manipulating cut bricks—no two seemed to be quite alike and all were satisfying. They were always of lavish dimensions, and were often elaborately enriched with spiral, zigzag, or reticulated patterns, executed in cut bricks. The shaft was generally circular or octagonal, rising from a well-moulded base, and finishing with a capital which in the best examples had the octagonal sides slightly hollowed so that they might meet in a sharp point, the angles being further emphasised by small projecting pieces which fret the sky and give a crispness to the profile, which was very effective. Another use for brick was the filling or nogging between the uprights of half-timber work. Where these spaces were not plastered, the fancy of the builder seemed to have suggested all manner of ways of laying the long, thin bricks in these narrow spaces, for no other reason than to give interest and to please the eye. The craftsmen of those days never lost an opportunity to obtain good wall texture. At Great Chalfield was, he believed, a unique instance of stone filling between the oak uprights. This had recently been brought to light by Mr. Harold Brakspear. Being a stone district, this ingenious system had been suggested by the material most easily obtainable, but the filling had proved more lasting than the framing. The necessity for the use of the materials of a particular district was the foundation of the elementary principles of the building crafts of this country, and rarely did one find an exception to the practice of using the local materials and of making the handiwork subservient to the proper application of those materials. At Thornbury Castle, Gloucestershire, curiously enough brick was introduced for the principal chimney stacks, although it was eminently a stone district, and many of the forms of spiral enrichment were equally applicable to stone. It was no uncommon thing to find red brick stacks to stone houses, sometimes because the stone was not suitable for use in their slabs placed on end. It must be allowed, nevertheless, that the houses nearly always gain by the contrast of the rich red beside the grey stone walling. It might have been the desire for colour contrast that prompted the introduction of those small spots of brick, but it was more likely that we had here an instance of the building owner overruling local tradition in his desire to vie with such brick stacks as he had seen on his journeyings.

Stone as the larger material had always

suggested greater breadth of treatment, and a simple reliance upon the dignity and repose of plain wall space. Relief might be produced in very simple ways, and one of the most effective found in districts where stones of more than one colour were available was the arrangement of light and dark courses, not necessarily alternating, but often more pleasing if built in haphazard at the whim of the mason. Craftsmen should possess in no small degree the power of invention and knowledge of form and light and shade, which were essential to the painter, with this important difference—that the one produced his effects from the palette, while the other created his out of solid materials. Mullions well placed in relation to the wall face, string courses at the right levels, and label mouldings over windows, when carefully introduced gave brilliance to a plain surface, which otherwise might be dull and uninteresting. Walling might be, and often was, comparatively rough, built of unsquared stones or of small stones brought to irregular courses; but the wrought work needed to be carried out with all the more thought and care, and well-defined mouldings and carving show up as precious beside a comparatively rough setting. In no one particular feature was the free and romantic spirit of the late mediæval work more clearly seen than in the sculptured finials perched high at the apex of a gable or crowning a pinnacle.

Wherever Ham Hill stone could be obtained one found ashlar walling in large blocks with fine joints, instead of unwrought walling, and nobody knew better than the craftsmen of old that so beautiful a material could be relied upon to tell its own story with very little, if any, help from the carver. A single spot of carving on a plain wall—such as a crest projecting slightly, or a panel sunk ever so little, and containing a shield or a coat-of-arms—was more often than not depended upon to give a character which was much more expressive than results, as a rule, from a lavish display of decorative detail.

In these quiet stone houses much depended upon the section of the stone mullions and their position in relation to the external wall face. Thin mullions or, what came to the same thing, lights too wide, were sure to produce a meagre and wiry effect, and the old masons seldom erred in this respect. Although mediæval buildings owe so much to the wealth of stone traceries, the difficulties of glazing and of providing shutters or casements to fit lights with intricate heads in due course resulted in the abandonment of traceried heads except in the upper parts of oriel or bay windows, for the simpler flat-arched type, which the native builders loved so well, or for the still simpler square head, which persisted until it was eventually ousted by the introduction from abroad of the wooden sash window. With tracery or the flat arch the section of the mullion invariably showed the hollow chamber, but with the square head the convex form was general, while in the best work in districts where good free stone was available, an additional member was often worked. These mullions were set back seldom less than 2½ in. or more than 6 in., the larger mullions alone being brought out to the wall face. There was no doubt that the Italian carvers, who were present in this country in numbers long before the Renaissance came to maturity, were able to teach much by their more delicate modelling, by their wider range of decorative detail, and, above all, by their knowledge of the human figure, which the native carvers seldom attempted; but whenever straightforward heraldic carving was needed to fill a panel, a spandrel, or to shape a finial there was no lack of creative power. The bay window and the oriel were in particular singled out for elaboration in these native-built houses, and they gave opportunities for the display of skill in many materials. It would be easy to multiply examples of fine craftsmanship rom houses built in the XVth and XVIth fenturies all over England. Many had been pulled down, many had been disfigured by rebuildings and additions, but almost the deadliest foe they had had to contend against had been the ignorant "restorer," who as often as not had thrust himself to the fore, and in so doing had dealt a blow at the subtle qualities of the old work from which it could never recover. For this native craftsmanship was elusive in its charm; one should not seek to master it by the ponderous study of fancied principles of design, for there was no conscious design, in the latter-day sense of the word. Purpose was expressed with sincerity, often with naïveté; there was no sacrifice to the dictates of symmetry, which had at times been so monumental in their destruction of truthful, unaffected building. If a wing was needed on one side of a house rather than on another it was thrown out; if a bay window was wanted to give importance and better light to a principal apartment, it was fearlessly built without any thought as to the necessity of another one to balance it; no one knew better than the builders of that time how to let it tell its own story and strike its own note in the composition. Whether the material used was timber, brick, or stone, each was handled with thought for its peculiar properties, and never was effort made to force it beyond its natural expression. Genuine materials, however homely, were considered preferable under all circumstances to imitative ones, and seldom did it happen that their appearance was not improved by the right methods of working them. In these English homes, large and small, we have conclusive proof that native craftsmanship was equal to the calls made upon it, and only in detail, which formed no essential part of the structure, did we find the Flemish or Italian artist giving evidence of his greater grasp of decorative motifs, and carving in wood or stone, or modelling in terra-cotta, heads, arabesques, and even figures, such as they were familiar with in their own countries, but for which they found no precedent in this. Never was there a period of building activity in England which owed its vital qualities to restraint, to the right use of material, and to insistence upon simple, straightforward methods of execution, more surely than that during which the beautiful houses were erected of which he had spoken. They were built by men about whom we knew practically nothing, whose names even had not been handed down to us except in those few instances where that of a master mason or a master carpenter had been recorded in a building account. The full flood of the Renaissance swept over the land while they were still masters of their own crafts, yet the carrying out of new-fangled ideas and the strange contortions of classic profiles, for which they were called upon to reject their own unobtrusive art, was destined to rob them of the opportunity to keep alive their own traditions, and even, in later years, to stand in the way of their receiving the recognition which ought long ago to have been meted out to them. They always worked within their strength; they gave us craftsman's architecture at its best, suited to the climate and to the needs of the people; and if we would throw off many of the trammels which fetter us to-day, and express ourselves once more in that healthy, unaffected manner of building, which it was our common aim to promote, we could not do better than look to their handiwork for guidance and inspiration, for in it we should find made clear many of the secrets of beautiful building.

A hearty vote of thanks was passed to the lecturer.

PROPOSED COUNCIL SCHOOL, CWMAMAN.—Mr. N. G. Lewis, architect, has submitted plans to the Aberdare Education Committee, which they have approved, for proposed new schools at Cwmaman. The new premises will provide accommodation for 200 in the mixed department, and 220 in the infants' department.

PICTURE EXHIBITIONS.

MESSRS. AGNEW'S GALLERY.

AT Messrs. Agnew's Gallery in Old Bond-street there is on view the Forty-Third Annual exhibition of selected water-colour drawings, mostly by deceased artists of the old school, though the names of Harpignies, Lhermitte, A. Goodwin, and Mrs. Allingham, also appear in the catalogue. The Harpignies drawings are small sketches and studies not of very much importance in comparison with the great landscape-painter's reputation; the one called "Mill at Herisson—Morning Effect," is, however, a remarkable study of the effect of early morning light. There are numbers of drawings out of the apparently inexhaustible store of Turners; some very early, some very late; none representing him at his highest, but all of value, for Turner's mediocre work ranks with the best of most other landscape painters. Barret one gets rather tired of; he had a style of his own, but it is not the best, and there is a great sameness about his effects. The works of David Cox exhibited sometimes make one inclined to question whether he also has not been a little overrated; "The Approaching Storm" is rather a scrawl; but his faculty of producing effect with very broad touches, almost blots, of wet colour, is finely illustrated in "The Edge of the Wood."

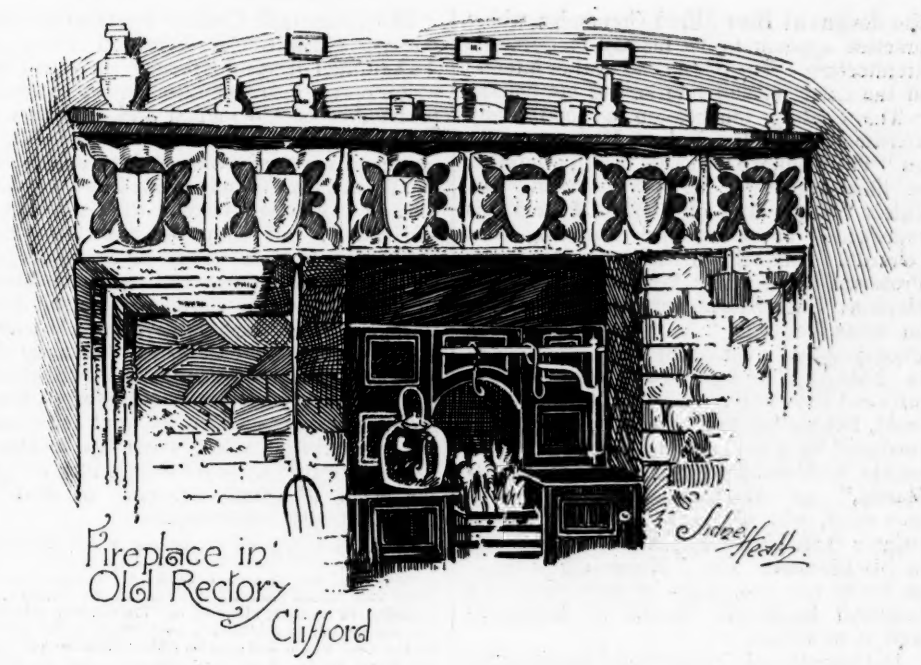
It is interesting, in respect to the progress of water-colour, to compare the restricted and low tones of the old painters with the colour of the later ones. Cozens's "Via Salviata," and Copley Fielding's "Loch Earn," which hang near each other, serve to contrast the ancient and the modern water-colour palette in a striking manner. It was not altogether that the older water-colour painters disliked or were indifferent to colour, but they had not got the colours; the then available water-colour pigments were very limited, and this fact no doubt reacted on the artists in influencing their style of treating landscape as a matter of composition and "values" rather than of colour.

There are some fine examples of De Wint, though in his landscape "Lincoln—Evening Glow" he has treated the cathedral, which appears in the middle distance, wretchedly, and appears to have been quite unable to see the real shape and proportions of the towers. On the other hand, Prout, who painted little except architecture, is represented better than anyone else, by a number of important works in his most powerful style. Admitting that his whole system of painting architecture and putting in the figures is a conventional one, and that all buildings seem to have been the same colour in his eyes, it is at any rate a very effective convention, carried out with a thorough understanding of the effect he wanted to produce and the means of obtaining it, and his architecture is always right in composition and has a firmly built-up appearance. His art was a limited one, but within its limits he is one of the most successful of all painters of architectural subjects.

NOTES FROM FRANCE.

THE late eminent engineer Belgrand, who planned the modern sewerage system of Paris, had suggested certain schemes of defence against flooding which were never executed, but which would have put Paris in a much better position to deal with the flooding of the river. The "Commission Technique," appointed by the Paris City Council to consider the measures to be taken for preventing the recurrence of such a disaster, proposes that the scheme of Belgrand should be revived and carried out. The Commission also insists on the necessity of raising the Paris quays in various places, raising the ground level at Bercy, and constructing a large Departmental "collecteur" or main drain to protect the suburban districts in the low-lying portions of the Department.

The Société Académique d'Architecture of Lyons has given as a subject for their



architectural competition for this year "A School of technical Instruction in building Industries for the city of Lyons"; and, for the competition in decorative art, "A waiting-room kiosk for one of the Lyons tramway lines."

It is considered that the French Department of Fine Art does not look sufficiently well after the ancient buildings nominally under its care. Thus it appears that the XIIIth century church of St. Léger at Soissons, which is scheduled as a "Monument Historique," and is therefore under Government charge, has been converted by the Mayor of Soissons into a hall for public meetings, and a modern wall built in it to the detriment of its ancient architectural features.

Reference was made last week to the death of M. Raulin, the eminent architect. It may be added here that after having collaborated in the erection of several important buildings in Paris, notably the Trocadéro and the Opéra, Raulin was commissioned as Diocesan architect for the restoration of the cathedrals of Angers and of Mans. His death, at the age of seventy-three, was indirectly a result of the floods, for it was in a precipitate flight from the inundation of the Rue de Lille, in which his house was situated, that he suffered from exposure to cold which led to the illness that carried him off in a few days.

THE OLD RECTORY, CLIFFORD CHAMBERS.

CLIFFORD CHAMBERS, lying just off the Shipston-road, some three miles from Stratford-on-Avon, is a village that has not yet received the attention it deserves; for in addition to an old mill, a most interesting church, and many of the delightful cottages, for which this portion of the Midlands is famous, it has a most interesting manor house and an old half-timbered Rectory, with an external stone stairway. Apart from its picturesque appearance this last building is interesting by reason of its having been for some years the residence of Walter Roche, Shakespeare's schoolmaster, when that cleric was Rector of the village. SIDNEY HEATH.

CHIMNEYPIECE AT CLIFFORD CHAMBERS.

INSIDE the old Rectory of Clifford Chambers, near Stratford-on-Avon, is an interesting stone chimneypiece, the remaining portion of which consists of a series of shields set in quatrefoils. That this was once an open fire-grate is evident from the moulded corner-pieces that remain *in situ*. Unfortunately the fireplace has been bricked up for the insertion of an iron grate. In one of the bedrooms a very similar mantelpiece may also be seen, but neither here nor in the one illustrated do the shields show signs of ever having been emblazoned with armorial bearings. SIDNEY HEATH.

MAGAZINES AND REVIEWS.

THE *Art Journal* contains an article on "Fireplaces," forming one of a "Domestic Art Series." The illustrations are of course the principal interest, and some good types are shown. In the fireplace at Bredenbury Court, which is a room of sumptuous order, the segmental arch does not spring comfortably from off the columns; we should have preferred to see the columns a little higher with a straight entablature. We seem to hover now between the sumptuous fireplace on the one hand and the rather too naïve and ultra-simple style on the other hand, as in the one in the Entrance Hall at "Brompton," Yorkshire. The place is presumably a mansion, but the fireplace is that of a cottage. The possible variety in types of fireplace is of course far greater than is shown in the illustrations to this article; the subject might be extended almost indefinitely.

The *Architectural Record* (New York) has an article on "Churches for Small Congregations," by Mr. H. Wheaton Congdon. There are many good remarks in the article, and some very pleasing little churches among the illustrations, but they are mediævally conservative in style. "Lessons from Architectural Aberrations" is a suggestive paper. The author rightly points out, in reference to one of the "aberrations," that in a design either horizontal or vertical treatment should predominate, not an attempted compromise between the two. "The Architecture of American Colleges" should interest English readers, more especially as much of it seems to have been adopted or adapted from English collegiate architecture.

The *Berliner-Architekturwelt* gives one of its "one-man" issues; illustrating this time

the designs of Herr Alfred Grenander, whose practice appears to be mainly in domestic architecture. There is a good deal of interest in the exteriors and interiors of his houses.

The *Century* touches on a good many artistic topics. Mr. Robert Hichens writes on "The Spell of Damascus" with a number of illustrations by M. Jules Guérin. Mr. Cole's "Engravings of French Masters" is represented by a beautiful engraving after Gérard's portrait of Mdme. Récamier. Professor R. Williams Wood, of the Johns Hopkins University, contributes an article on what he calls "A New Departure in Photography," consisting of experiments in photographing by invisible light—*i.e.*, by infra-red rays only. It is a curious experiment, but we fail to see its use; the pictures produced by it are not like nature. A short article is devoted to "The Art of Homer Martin," an American landscape-painter, now dead, who seems to have been a finer painter than his countrymen were aware of in his life-time. His "Normandy Farm," as far as one can judge by engraving, is a beautiful landscape, French in feeling as well as in subject.

In *Concrete and Constructional Engineering*, Mr. H. Kempton Dyson puts in a plea for "Standard Methods for the Preparation of Reinforced Concrete Drawings." There is a good deal to be said in favour of this idea, and we are quite sure that architects who may have to consider the claims of competitive projects from different patentees or specialist firms would accord a hearty welcome to standardised drawings. Although not more intricate as to details than those relating to structural steel, drawings representing reinforced concrete work are not rendered more easy of comprehension by the manner in which some draughtsmen represent steel bars, rods, ties, and other portions of the reinforcement. The conventional methods and signs suggested by the writer deserve consideration, although in some respects they may not be universally approved. The same magazine also contains a summary of recent French and Italian views as to "Reinforced Concrete for Earthquake Districts," a subject which, fortunately, is not of direct interest to the majority of our readers.

Ferro-Concrete contains some further structural details of the "Royal Liver Building, Liverpool," the examples of arch construction being prominent features described. There is also a short illustrated article on "Compressol Foundations" executed by compressing the soil vertically and laterally and forming in the ground, supporting piers of concrete terminated at the lower end by an enlarged base and having a rough corrugated surface adding greatly to their supporting power. Compression is performed mechanically by dropping conical weights from a sufficient height, and it is stated that the method has been adopted by various public authorities on the Continent.

The *Illuminating Engineer* contains a report of the interesting discussion on "Glare," which took place recently amongst the members of the Illuminating Engineering Society. In an editorial note it is stated that the City of London has already taken action demanding the screening of glaring powerful lamps hung at a low level outside shops. As a matter of fact, some of the most offensive examples of exterior shop lighting are to be seen at the present time in City streets. Batteries of dazzling unshielded lamps hung at a low level outside the shops are allowed to cast their blinding rays into the eyes of pedestrians. It is true that in the year 1906 the City Corporation ordered that high-power lights should not be fitted outside shops "unless screened in such a manner as to prevent the rays of light falling upon the public ways." When this regulation was made we welcomed it as a regulation sorely needed for the protection of the public, but we are sorry to observe that it has not been enforced.

The *Nineteenth Century* contains an important article by Mr. Edwin A. Pratt on "The Canal Revival Scheme," in which the writer enters into a minute enquiry as to the probability of the revival and extension of the canal system of this country proving a remunerative work, and decides against it. We do not know whether Mr. Pratt has any bias on the subject beyond what appears in his article, but some of the facts and statistics which he gives as in opposition to the movement deserve careful consideration. We think he shows conclusively that the conditions which have made the canal system an apparent success in Germany are different from those which exist in England. In Germany the navigable rivers form a great proportion of the waterway, and the canals are cut chiefly to link them up together. The author throws doubt even on the alleged cheapness of canal transport of coal as compared with rail transport.

> "The canal terminus in London would be either the Thames at Brentford or the Regent's Canal at Limehouse. But the coal would be wanted less at those two places than at Wimbledon, at Brixton, at Bromley, or at some other of London's many suburbs, six, eight, or, it might be, even more miles away. So the coal would have to be either transferred from the canal barge to railway trucks or put in sacks on a coal lorry for conveyance by road to its actual destination, with the result that there would be more deterioration in quality, and also more outlay. In regard, again, to the latter item, one must remember that it is less convenient, and therefore more expensive, to raise coal from a canal barge than to shovel it from a railway truck into a cart or sacks on the same level.
>
> When, on the other hand, coal is transported by rail instead of by canal the trucks go along the colliery sidings right under the screens at the mouth of the pit, and the coal, as raised, falls direct into them. Thence the trucks can go by rail to any part of the country, and, if the coal should be wanted in a large works, the trucks will probably be taken on rails laid there for the purpose not only to the particular department, but to the very furnace where the coal is wanted. In most cases this would be impossible with canal transport. . . . If, on the one hand, we add to the cost of the canal transport of coal the actual amount of all the supplementary charges and expenses, and allow also for the loss on breakage due to the extra handling; and if, on the other hand, we allow in the railway charges for the actual commercial value of the various services rendered or facilities offered by the railway apart from mere haulage, then it is obvious that any saving in water transport over rail transport for a given distance may disappear altogether, without taking count of the greater convenience the railway affords."

The *Windsor Magazine* contains a short but very interesting article and illustrations under the title "The Soul of the Workman." It appears that a German political economist, Dr. Levenstein, has been taken with the idea of encouraging working-men of the poorer class to try what they could do in the way of expressing their ideas in a pictorial form, and that the result has been a surprising collection of drawings by working-men earning from twenty to twenty-four shillings or so per week. Three or four of these are illustrated, and show both poetry and pathos, as well as considerable achievement in drawing. One especially, called "Gray Days—Lunch Hour in a Carpenter's Shop," made by Karl Rother, a carpenter's assistant, is very impressive. Dr. Levenstein suggests that this means of adding an interest in life to the humbler among the working-classes might very well be attempted in other countries, since the experiment has been so successful in Berlin. Men who are induced thus to try their hands at art may find that they possess a talent which they were unconscious of before.

THE SOCIETY OF ARCHITECTS:

GARDEN PLANNING IN RELATION TO THE HOUSE.

A MEETING of the Society of Architects was held on Thursday last week at the premises of the Society, Staple Inn-buildings (South), W.C., Mr. Percy Tubbs, Vice-President, presiding, in the absence of the President, Mr. Bond, J.P.

The minutes of last meeting having been read and confirmed, and some candidates for membership elected,

The Chairman announced the decease of Mr. Robert Walker, an old member of the Society, and it was agreed to send a letter of condolence to the relatives.

A paper was then read by Miss Lorrie G. Dunington on "Garden Planning in Relation to the House." The true beauty of the garden, she said, was dependent on three main conditions, all of which were indispensable. First, excellence of design; second, suitability of material; third, harmonious planting. She then dealt with the historical facts, and said that gardens in their origin were made to conform to the lines of the building and were entirely subservient to it. Proceeding, she said that the art of garden design in England was at its zenith during the XVIIth and early XVIIIth centuries. The peaceful old manor-house garden of the XVIth century was insufficient to meet the demands of the public which was then feeling the influence of the Italian Renaissance, and the new ideas from the Continent wrought many changes in the English home and Court circles. Yet something more than improvement of design was responsible for this sudden uplifting of garden craft. Previous to this, it had been customary for the architect to design both house and garden, and the result was good up to a certain point. There was a general harmony of expression and unity of purpose between house and grounds which could not fail to be reposeful and pleasing in effect. But a change was coming over the public mind. The science of horticulture was advancing with equal rapidity, and people began to take an interest in flowers, etc. The garden of the future was to depend not only on architectural design, but also on the plants and trees it was intended to contain. The architect's knowledge of horticulture was not sufficient to meet the case, neither was the ordinary gardener competent to undertake the planning in addition to the planting. It was at this point that a French school of garden design came into existence, with Le Notre at its head. Here the horticulturist was sufficiently trained in architectural design to enable him to plan the "lay-out" in sympathy with the building. This period of brilliance lasted for over a century, and we were at the present time undergoing, to a certain extent, a revival of that lost splendour though we were accomplishing more than that.

It was impossible to lay down any hard-and-fast rules regarding the planning of grounds. Each site suggested its own requirements, and each building its setting and style. But, broadly speaking, the skill of the designer lay chiefly in making the most of existing features, in the overcoming of difficulties, and in preserving a sense of individuality untainted by affectation. The most successful lay-out was the one which, when finished, looked so obvious and unobtrusive in arrangement that it would be difficult to picture it otherwise. There were some who, in their endeavours to produce a faultless design, would at the start uproot every tree on the estate, exalt every depression, and lay low every mound; but what they gained by the abolition of a few obstacles did not compensate for loss of character and feeling. Any departure from convention was permissible, providing that the reason behind it was a good one. This was especially true of the remodelling of an existing garden of some maturity. Any who had undertaken such a task would have found innumerable hindrances to the carrying out of preconceived ideas. The size of the forecourt, the length of the paths, the width of the terraces, all might have to be readjusted in order to preserve some fine old timber or rare shrub. The "clean slate" method was undoubtedly the easier, but the inevitable sacrifice which it entailed laid it open to just condemnation. Even when dealing with a new site the designer should weigh carefully in the balance the removal of a single tree. It was essential to pay considerable attention to the main entrance to the grounds from the road, as it was here that the visitors gained their first impression of house and garden. The drive and forecourt should be quiet and subdued in design, with just sufficient well

thought-out colour to suggest cheerfulness and good taste. Anything approaching ostentation should be strictly avoided. But when we came to deal with the garden proper, we could allow ourselves a greater licence, colour must abound, and the design, now less restricted, should offer peace and pleasure for every changing mood. The overcrowding of ideas was the commonest fault of the beginner. Most plans from the 'prentice hand contained sufficient special features for half-a-dozen gardens. Moreover, a garden was not an architectural museum. It could be in perfect harmony with the house and still be devoid of masonry and statuary, and unless the latter be really good, it was better absent. There were few who realised to the fullest extent the value of a well-formed grass bank of geometric design, or who were conscious of the exquisite charm of the shadows it might cast in sunlight. Gardens, being less permanent than buildings, were more influenced by passing fashions. At the moment no garden was considered complete without a pergola, and so, with a happy disregard of all laws of design and good taste, we saw this unfortunate alien from Italy erected in almost every plot of ground large enough to take it. If there be no south slope available for it and its roses and vines, then it was placed on the north and covered with ivy. A sad and useless object leading from nowhere to nowhere. The sun dial was another feature much misused. Savouring of a past age, it suggested itself as a centre-piece for an old-fashioned formal garden. Yet, how often did we see it set up in Suburbia with nothing to link it to its surroundings. But still more incongruous was it when one met it in the forecourt of a public building, or in a London soot-ladened garden.

Materials produced style, and this was true, not only of buildings, but also of gardens. All architectural introductions into the garden should be, as far as possible, of similar materials to those used in the construction of the house. This might appear a mere platitude, and yet we not infrequently met, in otherwise well-planned gardens, an absolute dissimilarity of materials. What was suited to the Surrey pine woods would be out of place on the chalk downs of Kent or the clay of Middlesex. If the house be of London yellow brick, then let yellow bricks form the garden walls and steps. To import stone or other materials of greater refinement would be to accentuate the mediocrity of the building. In these days, however, of easy transits by road and rail, few people cared to preserve a local style by the use of materials close at hand. They chose their gardens much as they did their carpets, by consulting a pattern book. Their fancy was caught by a fashion and they succumbed. The house was for the time being forgotten as were also the surrounding conditions. Nor did the folly end here. Affectation crept in in many subtle ways. At the present moment there was a revival of the gardens of a couple of centuries ago. There was a desire to reproduce ready-made antiquity. What was more delightful than a walk paved with old York flag-stones? Age had mellowed and frost and rain broken it asunder. Vegetation had sprung up in the crevices and the whole was sweet with memories. Compare this with the handiwork of the modern man who first laid a discarded London flagstone, and then shattered it to bits with a hammer that it might present a crazy as well as an antique appearance. Would these paths we so construct live to be a joy to future generations? She thought not. This was what she meant by retrogression in garden craft. Let us take the best of what had gone before and then with sound materials proceed to greater attainments. Of what avail was a design, however beautiful on paper, if it was unsuited to the successful growing of flowers and trees? Materials controlled design. How, then, would anyone design successfully if they had no knowledge of the materials which were necessary to the carrying out of their ideas? She pleaded for a greater application to the study of horticulture by all those who aspired to the art of garden planning. Trees and shrubs used in garden making fell under two headings:—(1) Those used architecturally, when they supplanted more permanent materials, but at the same time were made to fulfil the same duties. Here we included the clipped hedge of yew or beech, the trim edging of box, the pleached alley and the topiary tree. To class these as unnatural, and therefore unsuitable, features, was scarcely a fair criticism, since they were not intended to replace trees of natural growth, but acted as foils to them. (2) Under the second heading we had trees, shrubs, and flowers used exclusively for decorative purposes, and these were allowed to grow more or less as Nature dictated. At the same time, due attention should be paid to the artistic grouping of colours, the value of light and shade, and the planting for bold effect; and it would seem that this was worthy of special study, in order to bring out the fullest possibilities of the garden. With higher ideals before us and an increase of knowledge and experience, we could look forward to achievements greater than those of the XVIIth and XVIIIth century masters.

Some excellent lantern views of gardens were then shown, and a discussion followed, in which Col. F. S. Leslie (who proposed a vote of thanks), and Messrs. W. J. Rogers, Hamilton Briggs (who seconded), and E. J. Sadgrove took part.

The Chairman put the vote of thanks to the meeting, and it was heartily agreed to.

Miss Dunington made her acknowledgment, and the meeting terminated.

REGULATIONS AS TO APPLICATIONS UNDER THE LONDON BUILDING ACTS.

AT the meeting of the London County Council on Tuesday, the Building Act Committee brought up the following report, the recommendations being agreed to:—

"On November 8, 1904, the Council approved regulations with regard to applications under the London Building Acts, 1894 and 1898. The passing of the London Building Acts (Amendment) Act, 1905, and the London County Council (General Powers) Acts, 1908 and 1909, renders it necessary that certain alterations in, and additions to, these regulations should be made, and we consider that the opportunity should be taken to make also such alterations as may be necessary to secure uniformity of expression and form throughout. The following statement shows the alterations and additions which we consider necessary or desirable, and we think that we need only mention that the deletion of regulations Nos. 9 and 11 is due to the repeal of sects. 63 and 76 of the Act of 1894, by the Acts of 1905 and 1908 respectively. The regulations with regard to sect. 203 of the Act of 1894 previously included with those with regard to sect. 76 have been placed in their proper position. We do not propose to suggest any alterations in the regulations made by the Council, and approved by the Tribunal of Appeal in accordance with the provisions of Part XI (dwelling-houses on low-lying land) of the Act of 1894, and we have ascertained that the Local Government, Records, and Museums Committee do not desire to suggest any alterations in the regulations under Part IV. (naming of streets and numbering of houses), and we have therefore not included them in the statement or in the regulations following this report. For the convenience of applicants a resolution with regard to fire-resisting materials passed by the Council on March 28, 1899 (p. 459), under the Second Schedule to the Act of 1894, has hitherto been printed with the regulations under consideration. The second schedule was, however, repealed by the Act of 1905, and the resolution should, therefore, be rescinded.

In the following statement those words, etc., which it is suggested should be deleted are enclosed in brackets. The words in italics, other than the italic headings, are the suggested additions.

The attention of applicants is specially directed to the provision of sect. 194 of the London Building Act, 1894, whereby all applications, plans, and other documents delivered at the office of the Council, on delivery there become the property of the Council.

I.—GENERAL.

[Every] Applications (except [those] under Part XI. of the Act of 1894, as to which see [paragraph] *regulation* II. [(14)] *(18)* [below]), must be addressed to the superintending architect, County Hall, Spring-gardens, S.W., and must state under which section *or sections* of the Acts [it is] *they are* made, *and must be accompanied by the drawings and particulars required in each case.*

[All] Applications must be *made* in writing on [foolscap] paper *of foolscap size on one side only of the paper* and all drawings (including plans, sections, and elevations must be on *the unglazed side of* tracing linen of sufficient size to permit of the approval of the Council being endorsed thereon. *Indelible prints of drawings on white linen may be submitted in lieu of tracings.*

The scale to which drawings are made must be drawn thereon and [not] *also* expressed in words; the north point must be indicated on all plans.

The site must be coloured pink, the proposed building red existing buildings grey, and any land to be dedicated and left open for the use of the public blue.

The full names and addresses of the persons on whose behalf [the] applications *are* [is] made and the extent and character of [his] *their* interests in the property *must be stated. It must also be stated* whether any portion of the sites on which the buildings [is] *are* proposed to be erected forms part of a disused burial ground and whether the property is freehold, leasehold, or copyhold [must be stated]. Particulars must be furnished as to the nature of [the] applications, [and] the situation of the streets, buildings, or structures, and the purposes for which such buildings *are* [is] required.

All drawings must be in duplicate, [and be drawn on the unglazed side of the tracing linen].

II.—PLANS, SECTIONS, AND PARTICULARS REQUIRED IN EACH CASE.

(1) *Formation and laying out of new streets—Adaptation of ways for streets and widening [s] of streets (see also* [13] 17 *[below]), etc., sect.* 7 *and sect.* 10 *of the* [1894] *Act of* 1894.

A key plan of the locality showing the surrounding property.

Plans [must be] to a scale of 1 *inch to* 88 feet [to the inch, and must be] accompanied by longitudinal sections to the same horizontal scale, but to a vertical scale of 1 *inch to* 11 feet [to the inch], showing the natural and intended surface levels of the streets (computed from ordnance or some other fixed datum), and by cross sections to a scale of [22 feet to the inch] 1 *inch to* 22 *feet.*

The width of the new street [must also] *to* be figured *on the plans.*

[A key plan of the locality showing the surrounding property must also be sent.]

Each street [must] *to* be marked on the plans with a number, and referred to in the application as street No. 1, street No. 2, etc. In the event of [the] *an* application being sanctioned, two additional copies of the plans will be required, and the [intended] *proposed* name of each street, identified by reference to the number of the street on the pans, must be submitted in accordance with sect. 32 of the Act of 1894. (For regulations as to street naming see pages [3] and [4].)

[In the case of the adaptation of ways for streets or the widening of streets under sect. 10, sections will not be required.]

[Every] Applications for sanction to the formation or laying out of [any] streets, or for the adaptation of [any] ways as [a] streets, [must] *are to* be accompanied by correct and sufficient particulars in writing (which must be verified by production of title deeds, should the Council so require) showing how the persons on whose behalf [the] applications [is] *are* made ha[s]*ve* acquired such control over the land forming the sites of the proposed streets shown on the plans accompanying [his] *the* applications, as may be requisite to enable [him] *them* to form or lay out such streets, or to adapt such ways as the case may be. Such particulars [must] *to* [contain] *include* the dates of, and the names and addresses of the parties to, the [document or] documents under which [the applicant acquired] such control *was secured.*

(2) *Buildings (a) within the prescribed distance (b) in advance of the general line of buildings, etc., sects. 13,* [sect.] *17, and* [sect.] *22 of the* [1894] *Act* of 1894, *and sects. 3 and 4 of the* [1898] *Act* of 1898.

Plans [must be] of a scale of *1 inch to* 22 feet [to the inch, and must] *showing* the situation of the building in relation to others adjacent to a sufficient extent to show the frontage of the street on [either] *both* sides of the site. The height [and] *of the proposed building, its* precise distance from the centre of the roadway [of the proposed building] and the width of the street [are] to be figured.

The names and addresses of the owners and occupiers of the nearest building on each side of the proposed building [must also be sent] *to be stated.*

In the event of an application being approved, an additional copy of the drawings will be required.

In the case of *an* application[s] under sect. 13 (5), the extent and height of the old buildings on the site [must] *to* be shown to the same scale and a copy of the plans certified by the district surveyor, together with the originals, should be forwarded. The original certified plans will be returned after being compared with the copy.

(3) *Open space at the rear of domestic buildings, sect.* 41; *and open space about working-class dwellings not abutting upon a street, sect. 42 of the* [1894] *Act* of 1894 *and sect. 4 of the* [1898] *Act* of 1898.

A block plan to a scale of 1 inch to 22 feet, showing the proposed building and the adjoining premises, with the approximate heights of any buildings included therein.

Plans and sections [must be] to [the] *a* scale of [one-eighth of an] *1* inch to [the foot; they must indicate] *8 feet showing* the heights of the proposed building[s] in [every] *its various* parts. [There must also be a block plan to a scale of 22 feet to 1 inch, showing the adjoining premises, with the approximate height of any buildings thereon, and] *The proposed use of each room to be indicated on the plans.* In any case where it is desired to extend a building or any part thereof above the diagonal line *referred to in sect. 41 of* [directed to be drawn by] the Act of 1894, the diagonal line and also the horizontal line from which it is drawn [must] *to* be shown on [such] *the* drawings.

(4) *Deviations from certified plans of domestic buildings previously existing on old sites, sect. 43 of the* [1894] *Act* of 1894.

A block plan to a scale of 1 inch to 22 feet, showing the proposed building and the adjoining premises, with the approximate heights of any buildings included therein.

Plans and sections to a scale of [one-eighth of an] *1* inch to [a foot] *8 feet,* showing the *extent*

and height [and extent] of the previously existing buildings, [and] certified by the district surveyor, [must be sent], together with plans and sections of the proposed [new] building[s] to the same scale. [The position and approximate height of any adjacent buildings must be indicated on a block plan to a scale of 22 feet to 1 inch.] The area of open space [to be left] and the height of *the* new building [must] *to* [be] figured, *and the proposed use of each room to be indicated on the plans.*

(5) *Laying out new streets on a cleared area, sect.* 44 *of the* [1894] *Act* of 1894.

[In all cases where the proposed new streets have been sanctioned but not formed the date of such sanction must be specified in any application submitted under sect. 44, and every such application must be accompanied by] A block plan to a scale of [44 feet to] 1 inch *to* 44 *feet* showing the width of all old streets on the area, and the extent and approximate heights of all old buildings thereon, [together with] Sections to a scale of [one-eighth of an] *1* inch to [the foot] *8 feet*, showing the height of the proposed [new] buildings.

In cases where the proposed new streets have been sanctioned but not formed the dates of such sanctions to be specified.

In [any] cases where sanction has not been obtained to the formation or laying out of *the* proposed new streets [upon a cleared area], applications for [the] sanction to such streets [must be made] in accordance with Regulation II. (1), [and] should accompany [any] applications [made] under sect. 44.

Applications cannot be entertained under sect. 44, *Part V.*, for modification or relaxation of [the previous provisions] *any provisions contained in the preceding sections* of Part V., except in respect [of] either *of* existing streets or streets for the formation of which [the] sanction has been obtained under Part II. of the [1894] Act *of 1894*.

(6) *Height of buildings, sects. 47 and* [sect.] *49 of the* [1894] *Act* of *1894*.

A block plan to a scale of [22 feet to an] *1* inch *to 22 feet* showing [the position of] the proposed building and [of any] adjacent buildings, and the width of the street.

[Also a] Plans and sections to a scale of [one-eighth of an] *1* inch to *8 feet* [the foot], showing the heights of the [several] *various* parts of the building, *and the level of the footway (if any) immediately in front of the centre of the face of the building, or, where there is no such footway, the level of the ground before excavation.*

(7) *Recesses and openings in external walls and recesses in party walls, sect. 54 of the* [1894] *Act* of 1894.

A block plan to a scale of [22 feet to an] *1* inch *to 22 feet* showing [the position of] the *proposed* building and [of] adjacent buildings.

Plans of the [floors of the] building and an elevation of the wall in which the recesses or openings occur to a scale of [one-eighth of an] *1* inch to [the foot] *8 feet*. The sizes of the recesses and openings [must] *to* be figured, *and the method of construction and support of the walls, floors, and roof to be shown.*

(8) *Timber in external walls, sect. 55; and furnace chimney-shafts, sect. 65 of the* [1894] *Act* of 1894.

A block plan to a scale of 1 inch to 22 feet showing the proposed building.

Plans, sections, and elevations to [the] *a* scale of [one-eighth of an] *1* inch to [a foot] *8 feet*, together with such details to a larger scale as may be necessary to show the construction.

[A block plan to a scale of 22 feet to the inch, showing the position of the building.]

[(9) *Means of escape from the upper stories of high buildings, sect. 63 of the* 1894 *Act.*]

[A block plan to a scale of 22 feet to an inch showing the position of the building and of adjoining buildings.]

[Plans of the floors above 60 feet from the street level to a scale of one-eighth of an inch to the foot, and full details of the means of escape to be provided.]

[(10)] (9) *Projections, sect. 73 of the* [1894] *Act* of 1894.

In addition to the drawings, etc., required by Regulation II. (2), a plan, section, and side elevation to a scale of [one-eighth of an] 1 inch to [a foot] *8 feet*. In the [case of the] *event of an* application being approved an additional copy of the drawings will be required.

[(11) *Additional cubical extent, sect. 76; and buildings for the supply of electricity, sect. 203 of the* 1894 *Act.*]

[A block plan to a scale of 22 feet to the inch showing the position of the proposed building and buildings adjacent.]

[Plans and sections to a scale of one-eighth of an inch to the foot showing the height of the building in its various parts.]

[The use to which the various parts of the building are intended to be put is to be indicated, also the positions and numbers of any hydrants or other fire-extinguishing appliances proposed to be provided, and any points bearing upon the question of liability to fire.]

(*10*) [(12)] *Special and temporary buildings and structures—Part VII. of the* [1894] *Act* of 1894 *and sects. 6 and 7 of the* [1898] *Act* of 1898.

[Applications must be accompanied by] A block plan *to a scale of 1 inch to 22 feet* [of the premises] showing the position of the proposed building or structure, and of any adjacent buildings or structures. [and also by a plan, elevation, and section.]

Plans, sections, and elevations of the proposed building or structure to a scale of [one-eighth of an] *1* inch to [a foot] *8 feet*, together with [such] sections and details to a scale sufficiently large to [clearly] show *clearly* the construction. *The sizes of constructional parts, the weights per foot run and the thicknesses of iron and steel members, and the sizes and pitch of rivets, to be figured and indicated on the plans.*

A fee of 5s. must be paid to the cashier of the Council on deposit[ing the] *of an* application, and *in the event of an application being approved* a further fee of 5s. [on obtaining a notification of the order of the Council, and] *must be paid and an additional copy of the drawings may be required.* In no case will the approval or licence be issued until the fees are paid.

[Every] Applications for [a] renewal of [an] approvals or licences for [a] temporary buildings or structures for [a] further periods must be accompanied by [a] certificates from [the] District Surveyors that [it] *there* has [not] been *no alteration in* [altered as to] construction or position. [and in cases where the building or structure has existed for three years or more as to its stability for such further period as may be applied for, and also as to any repairs which may be requisite.] *In cases where such buildings or structures have existed for three years or more the District Surveyors' certificates must also testify as to their stability for such further periods as may be applied for, and must specify the nature of any repairs that may be considered requisite.*

In cases where the buildings or structures [has] *have* existed for less than three years, [and] if [the] *an* inspection be merely to ascertain that [the building] *there* has [not] been [altered as to] *no alteration in* construction or position, and to certify that an extension of time may be allowed, a fee of 10s. may be demanded and received by the District Surveyor.

In cases where the buildings or structures [has] *have* existed for three years or more, and a certificate with regard to structural stability is required, a fee of 20s. may be demanded and received by the District Surveyor.

(*11*) *Buildings for the supply of electricity, sect. 203 of the Act of 1894.*

A block plan to a scale of 1 inch to 22 feet showing the proposed building and adjacent buildings.

Plans and sections to a scale of 1 inch to 8 feet, and details to a scale sufficiently large to show clearly the proposed construction together with a copy of the calculations of the loads and stresses to be provided for.

(*12*) *Alterations to buildings, sect. 207; and conversion of buildings, sect. 211 of the Act of 1894.*

Plans and particulars in sufficient detail to show clearly the nature of the proposed work, alteration, deviation, or conversion, accompanied by a statement as to the provisions of the Act from which relief is desired.

(*13*) *Additional cubical extent, sect. 17 of the Act of 1908.*

A block plan to a scale of 1 inch to 22 feet showing the proposed building and adjacent buildings.

Plans and sections to a scale of 1 inch to 8 feet showing the heights of the building in its various parts, such heights to be figured; also showing the materials and construction of (a) floors, roofs, and staircases; (b) enclosures to lifts, hoists, staircases, and other vertical shafts; (c) windows, skylights, lantern lights, doors, and frames; (d) partitions and screens enclosing rooms and shop windows; and (e) the proposed protection of structural iron or steel work.

(*14*) *Uniting buildings and retention of openings in party or external walls separating buildings, sect. 18 of the Act of 1908.*

A block plan to a scale of 1 inch to 22 feet showing the buildings.

Plans and sections to a scale of 1 inch to 8 feet showing the positions of the proposed openings, or the openings proposed to be retained, and the heights of the buildings in their various parts; also particulars of the construction of (a) floors, roofs, and staircases, and (b) enclosures to lifts, hoists, staircases, and other vertical shafts.

The nature of the separate occupations in the buildings and the uses to which the various parts of the buildings are proposed to be put to be indicated on the plans.

(*15*) *Doors, sliding doors, and shutters to openings in party, division, or external walls and large openings in party, division, or external walls, sect. 18 of the Act of 1908.*

A block plan to a scale of 1 inch to 22 feet showing the buildings.

Plans and sections to a scale of 1 inch to 8 feet showing the position and size of each opening, also particulars of the construction of (a) floors, roofs, and staircases, and (b) enclosures to lifts, hoists, staircases, and other vertical shafts.

Plans, sections, and elevations of the doors, sliding doors, and shutters to a scale of 1 inch to 1 foot showing the construction, hanging, and method of fastening and operating.

In cases where applications relate to existing buildings, similar particulars of any existing openings in party, division, or external walls, and of the doors, sliding doors, or shutters provided thereto.

(*16*) *Buildings of iron and steel skeleton construction. Casing of pillars and girders, girder separators, level of girders, thickness and construction of walls, joints in and between pillars, coating of structural metalwork, wind pressure, pressure on the natural ground and proportions of brick pillars, sect. 22, subsect. 3 of the Act of 1909.*

A block plan to a scale of 1 inch to 22 feet showing the proposed buildings.

Plans and sections to a scale sufficiently large to show clearly the proposed construction or work, with a copy of the calculations of the loads and stresses to be provided for and particulars of the materials proposed to be used, and such other information as may be required by the Council, together with a statement as to what requirements of the section it is desired should be modified or waived and the reasons for requiring such modification or waiver.

[(15) *Fire-resisting materials. Schedule II. of the London Building Act,* 1894—*The Council on March* 28, 1899, *passed the following resolution*—]

[That the Council do, in pursuance of the powers vested in it by the second schedule of the London Building Act, 1894, approve of the following material as fire-resisting, namely, concrete composed of properly burned coke breeze, free from dust and organic impurities, and Portland cement, in the following proportions, viz.—five parts by measurement of coke breeze to one part by measurement of Portland cement, mixed together with clean water to the satisfaction of the District Surveyor, when such concrete is used for filling in between the joists of floors, and is filled in to the depth of at least 5 in.]

We recommend (*a*) That the resolution (No. 3) of March 28, 1899 (p. 459), relative to building materials to be considered to be fire-resisting, in pursuance of the powers vested in the Council by the second schedule, now repealed, to the London Building Act, 1894, be rescinded. (*b*) That the resolution of November 8, 1904 (p. 2,453), so far as it relates to regulations other than those as to applications with regard to street naming, etc., and dwelling-houses on low-lying lands, made under the London Building Acts, 1894 and 1898, be rescinded. (*c*) That regulations be made as to applications under the London Building Act, 1894; the London Building Act, 1894 (Amendment) Act, 1898; Part III. of the London County Council (General Powers) Act, 1908; and Part IV. of the London County Council (General Powers) Act, 1909, as follows:—

The attention of applicants is specially directed to the provision of sect. 194 of the London Building Act, 1894, whereby all applications, plans, and other documents delivered at the office of the Council, on delivery there become the property of the Council.

I.—General.

Applications (except under Part XI. of the Act of 1894, as to which see regulation II. (18) must be addressed to the Superintending Architect, County Hall, Spring-gardens, S.W., and must state under which section or sections of the Acts they are made, and must be accompanied by the drawings and particulars required in each case.

Applications must be made in writing on paper of foolscap size on one side only of the paper, and all drawings (including plans, sections, and elevations) must be on the unglazed side of tracing *linen* of sufficient size to permit of the approval of the Council being endorsed thereon. Indelible prints of drawings on white *linen* may be submitted in lieu of tracings.

The scale to which drawings are made must be drawn thereon and also expressed in words; the north point must be indicated on all plans.

The site must be coloured pink, the proposed building red, existing buildings grey, and any land to be dedicated and left open for the use of the public blue.

The full names and addresses of the persons on whose behalf applications are made, and the extent and character of their interests in the property, must be stated. It must also be stated whether any portion of the sites on which the buildings are proposed to be erected forms part of a disused burial ground, and whether the property is freehold, leasehold, or copyhold. Particulars must be furnished as to the nature of applications, the situation of the streets, buildings, or structures, and the purposes for which such buildings are required.

All drawings must be in duplicate.

II.—Plans, Sections, and Particulars Required in Each Case.

(1) *Formation and laying out of new streets—Adaptation of ways for streets and widening of streets (see also* 17), *etc., sects. 7 and 10 of the Act of* 1894.

A key plan of the locality showing the surrounding property.

Plans to a scale of 1 inch to 88 feet accompanied by longitudinal sections to the same horizontal scale, but to a vertical scale of 1 inch to 11 feet, showing the natural and intended surface levels of the streets (computed from ordnance or some other fixed datum), and by cross sections to a scale of 1 inch to 22 feet.

The width of the new street to be figured on the plans.

Each street to be marked on the plans with a number, and referred to in the application as street No. 1, street No. 2, etc. In the event of an application being sanctioned, two additional copies of the plans will be required, and the proposed name of each street, identified by reference to the number of the street on the plans, must be submitted in accordance with sect. 32 of the Act of 1894. . . .

Applications for sanction to the formation or laying out of streets, or for the adaptation of ways as streets, are to be accompanied by correct and sufficient particulars in writing (which must be verified by production of title deeds should the Council so require), showing how the persons on whose behalf applications are made have acquired such control over the land forming the sites of the proposed streets shown on the plans accompanying the applications, as may be requisite to enable them to form or lay out such streets, or to adapt such ways, as the case may be. Such particulars to include the dates of, and the names and addresses of the parties to, the documents under which such control was secured.

(2) *Buildings (a) within the prescribed distance, (b) in advance of the general line of buildings, etc., sects.* 13, 17, *and* 22 *of the Act of* 1894, *and sects.* 3 *and* 4 *of the Act of* 1898.

Plans to a scale of 1 inch to 22 feet showing the situation of the building in relation to others adjacent to a sufficient extent to show the frontage of the street on both sides of the site. The height of the proposed building, its precise distance from the centre of the roadway, and the width of the street to be figured.

The names and addresses of the owners and occupiers of the nearest building on each side of the proposed building to be stated.

In the event of an application being approved, an additional copy of the drawings will be required.

In the case of an application under sect. 13 (5), the extent and height of the old buildings on the site to be shown to the same scale and a copy of the plans certified by the District Surveyor, together with the originals, should be forwarded. The original certified plans will be returned after being compared with the copy.

(3) *Open space at the rear of domestic buildings, sect.* 41; *and open space about working-class dwellings not abutting upon a street, sect.* 42 *of the Act of* 1894 *and sect.* 4 *of the Act of* 1898.

A block plan to a scale of 1 inch to 22 feet, showing the proposed building and the adjoining

premises, with the approximate heights of any buildings included therein.

Plans and sections to a scale of 1 inch to 8 feet, showing the heights of the proposed building in its various parts. The proposed use of each room to be indicated on the plans. In any case where it is desired to extend a building or any part thereof above the diagonal line referred to in sect. 41 of the Act of 1894, the diagonal line and also the horizontal line from which it is drawn to be shown on the drawings.

(4) *Deviations from certified plans of domestic buildings previously existing on old sites, sect.* 43 *of the Act of* 1894.

A block plan to a scale of 1 inch to 22 feet, showing the proposed building and the adjoining premises, with the approximate heights of any buildings included therein.

Plans and sections to a scale of 1 inch to 8 feet, showing the extent and height of the previously existing buildings certified by the District Surveyor, together with plans and sections of the proposed building to the same scale. The area of open space and the height of the new building to be figured, and the proposed use of each room to be indicated on the plans.

(5) *Laying out new streets on a cleared area, sect.* 44 *of the Act of* 1894.

A block plan to a scale of 1 inch to 44 feet, showing the width of all old streets on the area, and the extent and approximate heights of all old buildings thereon.

Sections to a scale of 1 inch to 8 feet, showing the height of the proposed buildings.

In cases where the proposed new streets have been sanctioned, but not formed, the dates of such sanctions to be specified.

In cases where sanction has not been obtained to the formation or laying out of the proposed new streets, applications for sanction to such streets, in accordance with regulation II. (1), should accompany applications under sect. 44.

Applications cannot be entertained under sect. 44, Part V., for modification or relaxation of any provisions contained in the preceding sections of Part V., except in respect either of existing streets or streets for the formation of which sanction has been obtained under Part II. of the Act of 1894.

(6) *Height of buildings, sects.* 47 *and* 49 *of the Act of* 1894.

A block plan to a scale of 1 inch to 22 feet, showing the proposed building and adjacent buildings, and the width of the street.

Plans and sections to a scale of 1 inch to 8 feet, showing the heights of the various parts of the building, and the level of the footway (if any) immediately in front of the centre of the face of the building, or, where there is no such footway, the level of the ground before excavation.

(7) *Recesses and openings in external walls and recesses in party walls, sect.* 54 *of the Act of* 1894.

A block plan to a scale of 1 inch to 22 feet, showing the proposed building and adjacent buildings.

Plans of the building and an elevation of the wall in which the recesses or openings occur to a scale of 1 inch to 8 feet. The sizes of the recesses and openings to be figured, and the method of construction and support of the walls, floors, and roof to be shown.

(8) *Timber in external walls, sect.* 55; *and furnace chimney shafts, sect.* 65 *of the Act of* 1894.

A block plan to a scale of 1 inch to 22 feet showing the proposed building.

Plans, sections, and elevations to a scale of 1 inch to 8 feet, together with such details to a larger scale as may be necessary to show the construction.

(9) *Projections, sect.* 73 *of the Act of* 1894.

In addition to the drawings, etc., required by regulation II. (2), a plan, section, and side elevation to a scale of 1 inch to 8 feet. In the event of an application being approved, an additional copy of the drawings will be required.

(10) *Special and temporary buildings and structures—Part VII. of the Act of* 1894 *and sects.* 6 *and* 7 *of the Act of* 1898.

A block plan to a scale of 1 inch to 22 feet showing the position of the proposed building or structure, and of any adjacent buildings or structures.

Plans, sections, and elevations of the proposed building or structure to a scale of 1 inch to 8 feet, together with sections and details to a scale sufficiently large to show clearly the construction. The sizes of constructional parts, the weights per foot run and the thicknesses of iron and steel members, and the sizes and pitch of rivets, to be figured and indicated on the plans.

A fee of 5s. must be paid to the cashier of the Council on deposit of an application, and in the event of an application being approved a further fee of 5s. must be paid and an additional copy of the drawings may be required. In no case will the approval or licence be issued until the fees are paid.

Applications for renewal of approvals or licences for temporary buildings or structures for further periods must be accompanied by certificates from District Surveyors that there has been no alteration in construction or position. In cases where such buildings or structures have existed for three years or more the District Surveyors' certificates must also testify as to their stability for such further periods as may be applied for, and must specify the nature of any repairs that may be considered requisite.

In cases where the buildings or structures have existed for less than three years, if an inspection be merely to ascertain that there has been no alteration in construction or position, and to certify that an extension of time may be allowed, a fee of 10s. may be demanded and received by the District Surveyor.

In cases where the buildings or structures have existed for three years or more, and a certificate with regard to structural stability is required, a fee of 20s. may be demanded and received by the District Surveyor.

(11) *Buildings for the supply of electricity, sect.* 203 *of the Act of* 1894.

A block plan to a scale of 1 inch to 22 feet showing the proposed building and adjacent buildings.

Plans and sections to a scale of 1 inch to 8 feet, and details to a scale sufficiently large to show clearly the proposed construction, together with a copy of the calculations of the loads and stresses to be provided for.

(12) *Alterations to buildings, sect.* 207; *and conversion of buildings, sect.* 211 *of the Act of* 1894.

Plans and particulars in sufficient detail to show clearly the nature of the proposed work, alteration, deviation, or conversion, accompanied by a statement as to the provisions of the Act from which relief is desired.

(13) *Additional cubical extent, sect.* 17 *of the Act of* 1908.

A block plan to a scale of 1 inch to 22 feet showing the proposed building and adjacent buildings.

Plans and sections to a scale of 1 inch to 8 feet showing the heights of the building in its various parts, such heights to be figured; also showing the materials and construction of (*a*) floors, roofs, and staircases; (*b*) enclosures to lifts, hoists, staircases, and other vertical shafts; (*c*) windows, skylights, lantern lights, doors, and frames; (*d*) partitions and screens enclosing rooms and shop windows; and (*e*) the proposed protection of structural iron or steel work.

(14) *Uniting buildings and retention of openings in party or external walls separating buildings, sect.* 18 *of the Act of* 1908.

A block plan to a scale of 1 inch to 22 feet showing the buildings.

Plans and sections to a scale of 1 inch to 8 feet showing the positions of the proposed openings, or the openings proposed to be retained, and the heights of the buildings in their various parts; also particulars of the construction of (*a*) floors, roofs, and staircases, and (*b*) enclosures to lifts, hoists, staircases, and other vertical shafts.

The nature of the separate occupations in the buildings and the uses to which the various parts of the buildings are proposed to be put to be indicated on the plans.

(15) *Doors, sliding doors, and shutters to openings in party, division, or external walls and large openings in party, division, or external walls, sect.* 18 *of the Act of* 1908.

A block plan to a scale of 1 inch to 22 feet showing the buildings.

Plans and sections to a scale of 1 inch to 8 feet showing the position and size of each opening, also particulars of the construction of (*a*) floors, roofs, and staircases, and (*b*) enclosures to lifts, hoists, staircases, and other vertical shafts.

Plans, sections, and elevations of the doors, sliding doors, and shutters to a scale of 1 inch to 1 foot showing the construction, hanging, and method of fastening and operating.

In cases where applications relate to existing buildings, similar particulars of any existing openings in party, division, or external walls, and of the doors, sliding doors, or shutters provided thereto.

(16) *Buildings of iron and steel skeleton construction. Casing of pillars and girders, girder separators, level of girders, thickness and construction of walls, joints in and between pillars, coating of structural metalwork, wind pressure, pressure on the natural ground, and proportions of brick pillars, sect.* 22, *subsect.* 34, *of the Act of* 1909.

A block plan to a scale of 1 inch to 22 feet showing the proposed building.

Plans and sections to a scale sufficiently large to show clearly the proposed construction or work, with a copy of the calculations of the loads and stresses to be provided for and particulars of the materials proposed to be used, and such other information as may be required by the Council, together with a statement as to what requirements of the section it is desired should be modified or waived and the reasons for requiring such modification or waiver."

LONDON COUNTY COUNCIL EDUCATION COMMITTEE.

THE London County Council Education Committee met on Wednesday.

Acquisition of Property.—Estimate of 465*l.* was passed for acquiring freehold land, 1,930 sq. ft. in area, adjoining school north of the Thames. Estimate of 2,700*l.* voted for securing land to enable a Kensington school to be enlarged by 250 places.

The Central School Scheme.—A joint report on the proposed new central schools stated:—"The Finance Committee further point out that, as the Education Committee are aware, the high cost of central schools as compared with the cost of ordinary elementary schools is a matter which they view with some concern. They understand, however, that the high cost is due in part to the cost of providing special rooms referred to above, and in part to the limitation of the size of the schools. In these circumstances, the Finance Committee ask for further information as to the policy of providing small schools of 350 places and an assurance that such small schools shall be provided only in cases in which schools of a similar size would in ordinary circumstances have been provided if the Council had not been providing a school of a special type."

Consideration of the report was postponed.

New Secondary School.—It was decided to recommend the Council to build a new secondary school for 450 girls on a site already in possession of the Council at Highgate-road.

Architectural Studies.—Prizes for architectural and museum studies were awarded, one valued 10*l.* to Vincent Norman Frendemacker, and two valued at 5*l.* each to Dora Bard and Eveline Louise Quainton.

Brixton School of Building.—It was agreed that lectures on reinforced concrete should be given.

Northampton Polytechnic.—An equipment grant of 5,600*l.* was recommended.

New School at Paddington.—New school for 700 elementary children, North Paddington, to be built.

New School at St. Pancras.—New school for 200 to be built in West St. Pancras.

New Stairways.—Estimates were passed for provision of staircases, new exits, etc., at the following schools:—Globe-terrace (Bethnal Green, N.E.), Portman-place (Bethnal Green, N.E.), Shepperton-road (Islington, S.), Bromley Hall-road (Poplar), Betts-street (St. George-in-the-East), The "Ben Jonson" (Stepney), Merton-road (Wandsworth). The total cost is 2,175*l.*

It was also decided, at a cost of 210*l.*, to provide more staircases at the Hugh Myddelton School, Finsbury.

Cow-lane, Rotherhithe.—Tender of Messrs. Johnson & Phillips, 236*l.* 10s., accepted for electric lighting; estimate, 260*l.*

A Building Act Point.—The Building Subcommittee reported:—"We reported on December 8 the result of the hearing of the summons issued by the District Surveyor against Messrs. Galbraith Brothers, the contractors for the erection of the "John Ruskin" school for physically and mentally defective children (Newington, W.), in respect of the payment of fees under the London Building Act, 1894, when the magistrate decided that school buildings were exempt from the provisions of Parts VI. and VII. of the Act, but that, notwithstanding this, the District Surveyor was entitled to his full fees in respect of such buildings, and we stated that we were in communication with the Building Acts Committee on the matter. We are informed that the District Surveyors propose to continue to treat the Council's school buildings as not exempt from the provision of Parts VI. and VII., and in these circumstances we are of opinion that an endeavour should be made to obtain an express decision on this question. We therefore propose that the solicitor shall proceed with the application which has been served on the magistrate to state a case for the opinion of the High Court, and in the event of the case not being stated in a form likely to lead to a decision on the point, a further report will be submitted. It will be necessary to inform the Building Acts Committee of the action proposed to be taken."

The suggestion in this report was agreed to, and will be brought before the Council for confirmation.

METROPOLITAN ASYLUMS BOARD.

AT the fortnightly sitting of the Metropolitan Asylums Board on Saturday last week, the following matters were dealt with:—

Darenth Asylum.—The Works Committee reported with reference to a conference which had been held amongst the officials of the Local Government Board and the Asylums Board with reference to the plans for additional workrooms at Darenth Asylum. At this conference a proposal had been put forward by Mr. H. R. Hooper, Engineering Inspector of the Local Government Board, that it would be advisable, if possible, that the building or buildings to be erected should be so designed as to admit of ventilation by means of windows, movable transoms, etc., and without mechanical aid, and with this object in view the architect, Mr. Aldwinckle, was instructed to prepare revised plans giving effect to this proposal. The revised plans provide for the accommodation of 480 working patients in three naturally ventilated buildings for 160 patients each (room being left for a fourth building should the same be hereafter required), who will be classified as follows:—One room for new work, 160 workers; ditto, 120; ditto, mending, 60; ditto, teaching, 60; ditto, brush-making, 40; ditto, mattress-making, 40; total workers, 480. The floor space provided is 20 ft. super. per worker, and the cubic space 280 ft. per worker. (The minimum cubic space according to the Factory Acts is 250 ft.) The rooms would all be top lighted from the north on the "factory system," which provided a better diffused light than any other method. The division of the accommodation into blocks separated by open air spaces removed many of the difficulties in regard to the ventilation which existed in the former scheme, and which were pointed out at the time by the architect; and in particular it admitted of good cross ventilation, which was impossible in the former scheme.—It was decided to adopt the plan for the work, estimated to cost 5,250*l.*, subject to the approval of the Local Government Board.

FEBRUARY 19, 1910.

TO CORRESPONDENTS.

NOTE.—All communications with respect to literary and artistic matters should be addressed to "THE EDITOR" (and not to any person by name); those relating to advertisements and other exclusively business matters should be addressed to "THE PUBLISHER," and *not* to the Editor.

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N.B.—Illustrations of the First Premiated Design in any important architectural competition will always be accepted for publication by the Editor, whether they have been formally asked for or not.

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MEETINGS.

FRIDAY, FEBRUARY 18.

Architectural Association.—Mr. E. Swinfen Harris on 'The Life and Work of William Butterfield." 7.30 p.m.

London County Council Central School of Arts and Crafts, Southampton-row (Lectures on Historic Arts and Crafts).—Mr. E. F. Strange on "Book Ornament." 6 p.m.

Institution of Civil Engineers (Students' Meeting).—Vernon-Harcourt lecture on "Irrigation Works," by Sir R. Hanbury Brown, K.C.M.G., M.Inst.C.E. 8 p.m.

The Leicester and Leicestershire Society of Architects.—Mr. S. P. Pick on "Drainage and Sanitary Fittings." With illustrations. 8 p.m.

SATURDAY, FEBRUARY 19.

Aberdeen Architectural Association.—Mr. J. A. Ogg Allan on "A Recent Architectural Tour in the United States." 7.30 p.m.

Edinburgh Architectural Association.—Visit to Edinburgh and District Water Trust's new filter works, Fairmilehead.

MONDAY, FEBRUARY 21.

The Surveyors' Institution.—Mr. Robert M. D. Sanders on "Land Banks and Small Holdings." 5 p.m.

Institute of Sanitary Engineers.—Presidential address by Mr. H. T. Wakelam, M.Inst.C.E. 8 p.m.

Bristol Society of Architects (at the Fine Arts Academy, Clifton).—Mr. J. H. Markham on "The Architectural Treatment of Reinforced Concrete."

TUESDAY, FEBRUARY 22.

Institute of Sanitary Engineers (Students' Lecture).—Mr. G. W. Chilvers on "Ventilation of Dwellings and Public Buildings." 7 p.m.

British Museum (Lectures on Ancient Architecture).—By Mr. Banister Fletcher. XX.—"The Palaces of the Roman Emperors, Dwelling-houses, Pompeii and Pompeian Decoration." 4.30 p.m.

Institution of Civil Engineers.—Mr. C. Mattathias Jacobs on "The Hudson River Tunnels of the Hudson and Manhattan Railroad Company." 8 p.m.

WEDNESDAY, FEBRUARY 23.

Carpenters' Company, Carpenters' Hall, London-wall (Lectures on Arts Connected with Building).—Mr. G. P. Bankart on "The Art of the Plasterer." 7.30 p.m.

Architects' Technical Bureau.—Conference of architects and manufacturers at Bloomsbury Hall, 24 and 25, Hart-street, Bloomsbury, W.C. Subject, "Standardisation of Trade Catalogues." 8 p.m.

Institution of Civil Engineers.—Students' visit to the new station of the London Hydraulic Power Company, Grosvenor-road, Westminster.

Manchester Society of Architects.—Mr. Paul Waterhouse, M.A., on "Draughtsmanship"

THURSDAY, FEBRUARY 24.

London Master Builders' Association.—Annual dinner, Hotel Metropole, Charing Cross. The President, Mr. F. G. Rice, to preside. 6.30 p.m.

Carpenters' Hall, London-wall (Free Lectures).—Mr. J. Alfred Gotch, F.S.A., on "Northamptonshire Houses of the Early XVIIth Century." 8 p.m.

Leeds and Yorkshire Architectural Society.—Mr. J. B. Fulton on "The Church of Santa Sophia."

FRIDAY, FEBRUARY 25.

The Architectural Association Debating Society.—Paper, entitled "That the Employment of a Quantity Surveyor is to the Interest of the Building Owner," by Messrs. P. Gleed, P.A.S.I. (for), and Mr. T. L. Dale, A.R.I.B.A. (against). 7 p.m.

London County Council Central School of Arts and Crafts (Lectures on Historic Arts and Crafts).—Mr. W. W. Watts, F.S.A., on "The History and Development of English Silversmiths' Work." 6 p.m.

Glasgow Technical College Architectural Craftsmen's Society.—Mr. Donald Dewar on "A Treatise on Mutual Gables and Property." 8 p.m.

London County Council School of Building, Ferndale-road, Brixton.—Mr. A. C. Davis, F.C.S., A.I.C.E., on "The Manufacture and Uses of Portland Cement." 7.30 p.m. (Free).

Institution of Civil Engineers (Students' Meeting).—Second Vernon-Harcourt Lecture on "Irrigation Works," by Sir R. Hanbury Brown, K.C.M.G., M.Inst.C.E. Sir John W. Ottley, K.C.I.E., M.Inst.C.E., will preside. 8 p.m.

SATURDAY, FEBRUARY 26.

The Architectural Association.—Fourth spring visit to (1) the Sir John Cass Institute and School, near Aldgate. Mr. A. W. Cooksey, architect. 2 p.m. (2) New offices in Austin Friars-square. Mr. M. E. Collins, architect. 3 p.m.

Builders' Foremen and Clerks of Works' Institution.—Annual dinner, King's Hall, Holborn Restaurant. 5.30 p.m.

Junior Institution of Engineers.—Visit to building in course of erection for the Royal Automobile Club, Pall Mall. 3 p.m.

Fifty Years Ago.

FROM THE *Builder* OF FEBRUARY 18, 1860.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

THE report of the Council stated that two essays and one set of drawings had been received in competition for the Medal of the Institute and the Soane Medallion. One of the essays, signed "Hope," was on the genius of Vanbrugh; the second, inscribed, "He that hewed wood afore, out of the thick trees, was known to bring it to an excellent work" (Ps. lxxiv., 6), on woodwork of the Mediæval period. The latter was accompanied by a remarkable series of pen-and-ink sketches. While admitting the excellence of the sketches, the Council expressed regret that the incompleteness of the essay, apparently from want of time, prevented them from recommending the award of the Institute medal to the author of it, and suggested some honorary acknowledgment. After considerable discussion, and an amendment to the effect that the Institute Medal be awarded to the author of the essay (which was lost), a Medal of Merit was voted.

On opening the letter accompanying the essay it was found to be by Mr. G. E. Street.

Illustrations.

DESIGN FOR TWO BAYS OF A CHURCH IN REINFORCED CONCRETE.

THIS is the design for which its author, Mr. C. Percival Walgate, has been awarded the Grissell Gold Medal this year by the Institute of Architects.

The following is the author's description of his design:—

"In designing the ferro-concrete church I followed tradition as far as applicable, because only thus is satisfactory effect ensured. The suitable treatment of any new material is found by practical experience and not by logical deduction. The Greeks imitated wood in stone at the commencement of their marvellously developed style of marble architecture.

The interior is of marble and mosaic on Early Christian lines, with clear glass windows on account of the coloured surfaces. The exterior being rendered presents a new problem, and the design owes something to the Moresque.

The concrete is intended to be comparatively poor, and consequently used in greater bulk, thus better resisting weather and giving fewer opportunities for dangerous errors in the erection. The walls are double throughout, for warmth and the accommodation of pipes and wires in the interspace, which is wide enough to permit the passage of a workman. The vaults are domical and cylindrical, like the Roman concrete vaults; all stresses being internally resisted to avoid thrust on the walls. The roofing is of cast concrete tiles resting on vaults, but having air space underneath. The vertical supports are calculated without hooping, and sufficient bulk is allowed to satisfy eyes long accustomed to supports of materials having smaller resistances.

In the nave marble columns are used as only dead vertical weight is carried. If reinforced concrete columns were substituted the "Matrai" system would give opportunity of finishing them with entasis, and to a thickness in accordance with classical tradition. Where reinforcement is simple a mesh is used to facilitate erection."

Architectural Societies.

EDINBURGH ARCHITECTURAL ASSOCIATION.

A meeting of the Edinburgh Architectural Association was held on the 9th inst., at 117, George-street, Edinburgh—Mr. John Watson, F.R.I.B.A., presiding. A paper by Mr. Charles Ower, F.S.A. (Scot.), architect, Dundee, on "Architecture and the Poets," was read by Mr. B. C. Douglas, Dundee. The lecturer stated that in the Old Testament there were many descriptions which were almost architectural specifications, and in the purely poetic books architectural imagery was used in the finest way. From the great poets he selected quotations to illustrate the use they had made of architecture, and declared that at no period had architecture been despised by them. Architects as architects were little noticed, but their work was shown to be an essential in the economy of the world, and it was likely that in all time to come it might serve to inspire and delight such minds as contemplated the beautiful in art and idea.—Mr. H. J. W. Tillyard, M.A., Lecturer in Greek at the University of Edinburgh, gave an illustrated lecture on "Some Buildings and Defences of Ancient Sparta." He gave an account of the successive phases of the famous sanctuary of Artemis Orthia, the scene of the flogging of the Spartan boys. The earliest temple was built, he said, of unbaked bricks supported by a wooden framework. This was replaced later by a stone or marble building, to which in Roman times adjoined a small amphitheatre, where the musical and other contests of Spartan boys were held. He stated that while Sparta in classical times consisted of five unwalled villages, in the Macedonian age a vast circuit of walls was built of unbaked bricks roofed with tiles. Under the later Empire, when barbarian invasions were beginning, the citadel of Sparta and the neighbouring hills were guarded by walls made largely of fragments of public monuments and buildings.

MANCHESTER SOCIETY OF ARCHITECTS.

At a meeting of this Society on the 9th inst., Professor Adshead read a paper on "Town Planning." He said that almost all important towns had increased to such an extent that the question of using local materials alone, so as to harmonise with the natural scenery around, was not a matter of such importance to-day as in the past, the natural resources and effects of the site being practically obliterated in the large towns. He had, therefore, no objection to the use of exotic materials on the ground that they were not locally found; but choice of materials should be more entirely in sympathy with the prevailing atmospheric conditions. All main thoroughfares in the future should be distinctly separable, either by a system of refuges or walks, into three spaces, one for trams, one for quick, and one for slow traffic, and the houses should be well set back. Or the present plan of houses aligning tram routes should be reversed, and along the route the facades should be built up to the streets, or practically so. Railway termini should be recognised as the great entrances of the city, and should be provided with a greater forecourt or public space.

In laying out new quarters or streets, regard for contours and natural objects was of primary importance, yet, at the same time, to attach too great importance to the preservation of, say, a solitary tree offering a serious menace to the advance of civic progress and extension was a one-sided view of a difficult situation. Almost every city in England had its Norman keep, its Roman road, its moated space, or its mediæval wall. These were venerated by the historian, and a gold mine to the archæologist; their value was inestimable in the price current of the things of time. Yet the world must move on, and he would say that where such objects stand in the way of a real progressive scheme, measure them, photograph them, and let them go on. We must live for the future and not for the past. He felt that too much sentiment was dragged into the estimation of the architectural value of mediæval buildings, Chetham Colleges, Blue-coat Schools, even Crosby Halls and places of Richard III. These picturesque objects, which at one time had crowded the streets of every town, were the rustic efforts of a robust generation, but it could not be said that they were the great works of a great people. Undoubtedly the proportion and composition of these picturesque streets of two or three centuries ago might be studied with advantage by the city architect of to-day; but, after all, they showed a crudeness and a barbaric element which must give place to the more refined tastes of a period which came later on. Personally, to effect a street widening he would have little scruple, after photographing and measuring, in demolishing a half-tumbled down erection which had no other plea for preservation than that it was picturesque and built of good English oak. He felt that they were inclined to exaggerate the architectural value of much of the mediocre work of that period, and to under-estimate the value of work erected since the time of Wren and previous to the middle of last century, an age which contained a wealth of traditional forms which even the most pronounced progressive movements of to-day could not afford to ignore.

LEEDS AND YORKSHIRE ARCHITECTURAL SOCIETY.

On Thursday, the 10th inst., Mr. Raymond Unwin delivered a lecture on "The Planning of Suburbs." Mr. Unwin illustrated his paper by an extensive series of views and plans of the Hampstead Garden Suburb and typical examples of town-planning abroad. He said that the successful setting out of such a work as a new city would only be accomplished by the frank acceptance of the natural conditions of the site; and, subject to these, by the following out of some definite and orderly design based on them. To straighten a river, level a hill, fill up a valley, or even cut down a fine clump of ancient trees, to make the site fit some preconceived design, would be folly. Such natural features should be taken as the keynote of the composition; but beyond this there must be no meandering in a false imitation of so-called natural lines. Let the avenues be straight or boldly curved, not aimlessly crooked; and let the open spaces be not shapeless patches, but squares, circles, or other orderly forms. The glittering path of the river as it winds across the plain, or the slope of the mountain range standing out in silhouette against the sky, delighted us indeed; but the inconceivably complex conditions which form these curves had no part in any work of man; and in attempting to mimic them we but missed that beauty of orderly design for the creation of which alone power has been given to us. The problem was complicated because it was necessary to consider not only what was desirable but what was possible with the building conditions prevalent now. In the Garden City at Letchworth a considerable degree of harmony had been secured by requiring all roofs to be covered with tiles, while the very cheapness of the land at Letchworth, and the desire of many of the early settlers for the most countrified sites, had led to an appearance somewhat too scattered for the best architectural effect. This, however, would gradually rectify itself.

In Germany there had been a great change in the style of their town-planning. When the modern town-planning movement started the formal and geometrical style typical of Haussmann's work in Paris was adopted and the work was much in the hands of engineers; but since the time of Camillo Sitte a more irregular and picturesque style of work had become prevalent and was being carried to an extent which tended to destroy dignity and architectural effect. Taking the Hampstead Garden Suburb by way of illustration, one could see the importance of carefully studying the site, preparing a survey of the trees and other features on the land, together with a contour plan, before attempting to lay it out. The convenience of access to certain points, such as the railway station; drainage facilities; proper gradients for the roads, etc., would indicate generally the lines which the more important roads will take, while the cutting up of the land into the building plots of suitable sizes, with due regard for economy in length of road and proper consideration for the aspects of the buildings, would determine in a general way the lines of many of the building roads. The preservation of the outlook across any open space available should be considered. It was also essential to secure a suitable position to form the centre of the parish, suburb, or estate, where might be grouped the more important buildings. Having, in a general way, determined all these factors, the problem became essentially very much one of the exact lines and arrangement of the roads, together with the building lines, and the placing of the buildings must be determined primarily on architectural grounds, to secure satisfactory street pictures, whether of a picturesque or more dignified and architectonic character. In dealing with areas devoted to cottages, economy in roads was the first consideration. At Hampstead, by means of a special Act of Parliament, power was obtained to make roads limited to 500 ft. in length of a width of 20 ft., provided the houses on each side were not less than 20 ft. apart. As justifying the granting of this privilege the Trust bound themselves not to build more than an average of eight houses to the acre over the whole estate. The passing of the Town Planning Act afforded an opportunity, probably for the first time, for controlling the character of suburban development, and it would be the duty of architects in future to regard their buildings as parts of a total picture rather than as isolated units. At the same time an immense opportunity would be afforded for considering streets and areas as a whole, and for producing architectural grouping on a large scale. If wise use was made of the powers given in the Act, and if the citizens and especially the architects and surveyors would co-operate, it might be possible to stop the devastation going on round all our large towns, and begin to build up suburbs worthy to be the homes of the people.

At the next meeting of the Society to be held on Thursday, February 24, Mr. J. B. Fulton, A.R.I.B.A., will read a paper on "The Church of Santa Sophia."

YORK ARCHITECTURAL SOCIETY.

On the 8th inst. Dr. W. H. Evelyn delivered the last of a series of lectures on "Ouse Bridge and its Burden," to the members of the York Architectural Society. The Dean of York presided. Dr. Evelyn dealt principally with the old common hall, which stood on the old bridge, the "kidcote," or felon's prison, the debtor's prison, or the Tolbooth. He said the origin of the Council Chamber was unknown, but it existed in 1485, as then a pretty quarrel occurred between the Lord Mayor and the Sheriff, as told in the records of the Corporation. The Hall was finally closed in 1810, when a new Council Chamber was built at the Guildhall. Dealing with the "kidcotes," of which there were four, the lower chambers being in the crypt of St. William's Chapel, the lecturer said the condition of these places was inhuman in the extreme, and barbarous cruelties were practised by the gaolers. They were dens of iniquity, and the number of persons who died in them was startling. The cells of the lower "kidcotes" almost rivalled the Black Hole of Calcutta; they were devoid of air, light, and ventilation, and when the river was above normal they were flooded.

LIVERPOOL SCHOOL OF ARCHITECTURE.

We are informed that Mr. W. H. Lever has given to the School of Architecture in the University of Liverpool three prizes of 20*l.*, 10*l.*, and 5*l.* annually for the best scheme for laying out the land near the church in the centre of Port Sunlight, to provide sites for a village library, picture gallery, a gymnasium, and a college for higher education. Mr. Lever further offers, if he carries out any of the schemes submitted, to pay the author of it 100*l.* These prizes are open to students both in the School of Architecture proper and the Department of Civic Design. Mr. Ronald Jones, architect, and an old student of the School of Architecture, has given to the school a travelling scholarship for this year of 50*l.*, to be held at the British School at Rome. To this the British School has added a further 25*l.* With these sums it is hoped that a student will be able to work at the British School for at least six months, and do a piece of restoration work under the director of the school, similar to that done at the French School, but, of course, of smaller scope.

Engineering Societies.

CONCRETE INSTITUTE.

The election of six members of Council of the Concrete Institute has resulted in the return of three new members and the re-election of three of the old members. The new members are Professor Henry Adams, M.Inst.C.E., M.I.Mech.E., M.S.A., etc.; E. Fiander Etchells, F.Phys.Soc., M.Math.A., A.M.Inst.Mech.E.; and William G. Kirkaldy, A.M.Inst.C.E., and the Institute may be congratulated upon their selection, which will give additional weight to a Council that was already strong.

THE JUNIOR INSTITUTION OF ENGINEERS.

At a recent meeting of this Institution, held at the Royal United Service Institution, Whitehall, the Chairman, Mr. Geo. T. Bullock, presiding, the Honorary Members' Lecture of the year was delivered by Mr. R. H. Hammersley Heenan, M.Inst.C.E., late Consulting Engineer to the Harbour Commissioners of Port Elizabeth, who took as his subject "The Creation and Development of a Successful Commercial Port." With the harbour of Algoa Bay or Port Elizabeth as an illustration, the lecturer showed how great natural difficulties could be overcome in port development, and provision made for a satisfactory harbour. Both failures and successes were considered in the course of the lecture, reference being made to the breakwater of 1856, the design for docks in the bay in 1876, jetties and sea walls, mode of working the port, improvement of jetties, landing-stage for explosives, hyrdaulic dock, slipway, land reclamation, and fishing interests. The effects of improvements and the results of experience were dwelt upon, and the lecturer concluded with an interesting review of the various projects which had been put forward from time to time, including the latest proposal of Messrs. Coode, Son, and Matthews, the breakwaters of which would enclose an area of 740 acres, the general design being one recommended to the Harbour Commissioners by Mr. Heenan some years previously.

THE LONDON COUNTY COUNCIL.

THE usual weekly meeting of the London County Council was held on Tuesday in the County Hall, Spring-gardens, Sir R. Melvill Beachcroft, Chairman, presiding.

Loans.—It was agreed to lend Stepney Borough Council 1,500*l.* for the acquisition of land, and 7,100*l.* for electric lighting.

The Works Department.—The Establishment Committee brought up the following report, asked for and promised at a previous meeting of the Council:—

The Council on February 1, 1910, with the concurrence of our Chairman, referred it to us to present a final return of the total balance of cost above or below the final certificates, and above or below the schedule value in the case of jobbing works, of all works carried out by the Works Department. We present a return showing the results of the execution of all works carried out by the department, the return being subdivided as regards works commenced under each of the three periods of management—

—	Estimated Works. Final Certificates.	Estimated Works. Actual Cost.	Estimated Works. Balance of Cost *above* Final Certificates (1st and 2nd Periods).	Estimated Works. Balance of Cost *below* Final Certificates (3rd Period).	Jobbing Works.* Schedule Value.	Jobbing Works.* Actual Cost.	Jobbing Works.* Balance of Cost *below* Schedule Value.	Summary. Net Balance of Cost above (+) or below (−) Final Certificates or Schedule Value.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Summary of works commenced during first period of management (1892-7) ...	791,990 5 1	865,234 9 10	71,234 4 9	—	21,653 4 7	218,979 8 11	12,673 15 8	+87,744 4 0
Summary of works commenced during second period of management (1897-1902)	1,361,712 15 5	1,390,796 10 4	29,183 14 11	—				
Summary of works commenced and completed during third period of management (1902-9)...	3,016,529 4 2	2,703,275 6 8	—	313,253 17 6	381,989 15 5	382,752 15 0	29,237 0 5	−312,490 17 11
Total	5,172,132 4 8	4,959,296 6 10	100,417 19 8	313,253 17 6	613,643 0 0	571 732 3 11	41,910 16 1	−254,746 13 11
Net balance of cost *below* final certificates or schedule value	£212,835 17s. 10d.				£41,910 16s. 1d.			£254,796 13 11

* Prior to April 1, 1895, there was no schedule of prices for comparison. The actual cost of jobbing works executed up to that date was £72,005 11s. 1d.

In addition, works as follows have been carried out on the basis of actual cost—architectural works, 57,479*l.* 10s. 10d.; engineering works, 8,229*l.* 8s. 9d.

The cost of hoarding and shoring dangerous structures, and of drainage works at schools and jobbing works carried out on the basis of actual cost, is not included.

The consideration of the matter was adjourned until next week, when a report showing the profit or loss on works carried out by contractors during the years 1902-10 will be brought up for consideration at the same time.

Appointment.—The General Purposes Committee reported as follows:—

Now that the Works Department has been discontinued, we have considered as to the course to be adopted with regard to Mr. G. W. Humphreys, who was appointed manager of works in July, 1902. Mr. Humphreys is a member of the Institution of Civil Engineers of over ten years' standing. Previously to his appointment as works manager he had occupied positions of primary responsibility on the design of appliances and construction at home and abroad of many large and difficult engineering works, covering even a wider range of work than is ordinarily dealt with in the Council's service. During the last seven years he has had experience of most of the special construction works for which the Chief Engineer has been responsible, and many large and important main drainage and other works entrusted to him for execution have been carried out in a satisfactory manner. In view of this it seems to us that it would be to the Council's interest to retain Mr. Humphrey's services if they can be appropriately and adequately utilised. In this connexion our attention has been directed to the present position of the Engineer's department with reference to the provision for the control and management of the extensive and important works under the superintendence of the Chief Engineer should he be unable for any cause to be in charge. The Chief Assistant Engineer, who is not in robust health, will in eighteen months' time attain the age of 65 years, and another technical officer of high rank in the department, who is in his 65th year, is on the point of retiring. These circumstances convince us that the department requires strengthening, and we think that Mr. Humphrey's services could with great advantage be utilised in the Engineer's department. We judge such a step to be advisable in view alike of existing circumstances and possible future necessities, and we recommend that Mr. G. W. Humphreys be transferred to the Chief Engineer's department at his present salary (1,500*l.* a year).

After discussion and the defeat of an amendment to refer the matter back, the recommendation was carried.

Camberwell School of Arts and Crafts.—It was agreed that additional accommodation be provided at the London County Council Camberwell School of Arts and Crafts (Camberwell, N.).

Selected List of Contractors.—It was agreed that Mr. W. Bailey be invited to tender for repairs to schools, cleaning, and painting, as from February 1, 1910.

Proposed Additional Elementary School Accommodation at Canning Town.—It was agreed that no observations be offered on the proposal to provide a new school for about 1,500 children at Canning Town.

Shelter, Victoria-embankment. — It was agreed that the estimate of expenditure on capital account of 1,200*l.*, submitted by the Finance Committee in respect of the provision of street refuges and an oak weather shelter on the Victoria-embankment near Blackfriars Bridge, be approved.

Skating Rinks, etc.—The Theatres and Music-halls Committee recommended, and it was agreed, that proposals relating to the following be agreed to:—

Drawings, submitted by Messrs. Smith & Churchward, showing how it is proposed to convert the People's Arcade, Back Church-lane, Whitechapel, into a skating rink, to be known as the Alexandra Skating Rink.

Drawings and a specification, submitted by Messrs. Emden, Egan, & Co., of the Premier Electric Theatre proposed to be erected in Garratt-lane, Earlsfield.

Drawings, submitted by Mr. W. R. Phillips, showing a proposal for the conversion of premises situated at No. 80, Lisson-grove, Marylebone, into a skating rink.

Drawings, submitted by Mr. W. A. Cornell, of a skating rink proposed to be erected in Lower Woolwich-road.

Drawings, submitted by Messrs. Evans, Wadham, & Co., of the Swedish church proposed to be erected in Harcourt-street, Marylebone.

Drawings of the temperance billiard hall proposed to be erected in Wandsworth-road and Brewery-street (Mr. N. Evans).

APPLICATIONS UNDER THE LONDON BUILDING ACTS, 1894 to 1909.

THE London County Council at their meeting on Tuesday dealt with the following applications under the London Building Acts, 1894 to 1909. The names of applicants are given between parentheses:—

Lines of Frontage and Projections.

Hampstead.—A one-story bay window in front of the "Grange," Wadham-gardens, St. John's Wood (Messrs. Still, Wheat, & Luker for Mr. R. Story).—Consent.

Holborn.—The retention of a projecting electric letter sign in front of the Horseshoe Brewery, Tottenham Court-road (Meux's Company, Ltd.).—Consent.

Holborn.—A one-story building in front of Nos. 61 and 62, Lincoln's Inn-fields, Holborn (Mr. P. Hoffmann).—Consent.

Holborn.—The retention of a projecting sign at No. 252, Tottenham Court-road (Messrs. Wolfe & Hollander, Ltd.).—Consent.

Kensington, South.—An iron and glass shelter in front of No. 8, Holland-park, Kensington (Messrs. Chesterton & Sons for Mr. E. de la Torre).—Consent.

Kensington, South.—An addition at the rear of No. 67, Church-street, Kensington, to abut upon the northern side of Campden-grove (Mr. G. N. Watts for Mr. P. G. Osborne).—Refused.

Paddington, South.—The retention of an addition over the portico to No. 38, Gloucester-square, Paddington (Mr. M. A. Spielmann).—Consent.

Rotherhithe.—The retention of two showcases in front of No. 233, Southwark Park-road, Rotherhithe (Mr. E. Hoad).—Consent.

St. George, Hanover-square.—Retention of a projecting shop front at No. 2, Tenterden-street, Hanover-square (Messrs. Withers & Meredith for Mr. G. H. Schofield).—Consent.

St. George, Hanover-square.—A deviation from the plan approved for the erection of an iron and glass porch in front of No. 21, Grafton-street, St. George, Hanover-square, so far as relates to an alteration in the projection and design (Messrs. Hubbard & Moore for Messrs. Perry & Co.).—Consent.

St. George, Hanover-square.—A shop front at No. 227A, Regent-street, St. George, Hanover-square (Messrs. Sims & Woods, Ltd., for Mr. S. Barder).—Consent.

St. Pancras, South.—An illuminated sign at No. 136, Gower-street and No. 24, Gower-place, St. Pancras (Mr. H. W. Hetherington Palmer for Mr. H. K. Lewis).—Consent.

St. Pancras, North.—A one-story addition at No. 6, The Grove, Highgate (Mr. W. T. Walker for Mr. E. P. Sells, jun.).—Consent.

Wandsworth.—A projecting shop front at No. 11, Brookwood-road, Wandsworth (Mr. E. J. Shelmerdine).—Consent.

Wandsworth.—A wood and glass porch in front of No. 19, Veronica-road, Balham (Mr. W. C. Poole for the Executors of the late A. Heaver).—Consent.

Wandsworth.—Two additional stories to an existing photographic studio at No. 80, Upper Richmond-road, Putney (Mr. F. C. Gosby).—Consent.

Wandsworth.—A motor-house building in front of the house known as "Hope Cove," North-side, Wandsworth Common (Mr. A. G. Hastilow for Mr. F. E. Cain).—Refused.

Westminster.—The retention of a projecting sign in front of No. 121, Victoria-street, Westminster (Messrs. F. Hazell & Co.).—Consent.

Westminster.†—An oriel window in front of No. 16, Dartmouth-street, Westminster (Mr. F. Sherrin for Sir R. W. Perks).—Consent.

Width of Way.

Chelsea.—A cottage at the rear of Nos. 111 to 115, Fulham-road, at less than the prescribed distance from the centre of, and to exceed in height the width of, Kimbolton-row (Messrs. Elms & Jupp for Mr. E. Bingham).—Consent.

Clapham.—A building at less than the prescribed distance from the centre of the roadways of Nelson's-row and Carpenter's-cottages, Clapham (Mr. E. Cannell for Mr. S. A. Bailey).—Refused.

Greenwich.—Two cottages on the north-eastern side of Hoskins-street, East Greenwich, with a boundary fence at less than the prescribed distance from the centre of the roadway of the street (Mr. W. Bailey).—Consent.

Haggerston.—A one-story building adjoining the parish hall of St. Chads, Dunloe-street, Shoreditch, at less than the prescribed distance from the centre of the roadway of the street (Messrs. Dunk & Bousfield).—Consent.

Poplar.—A building on the western side of Bridge-road, Poplar, southward of the roadway leading to Providence-cottages, at less than the prescribed distance from the centre of

the roadway of Bridge-road (Messrs. J. & W. Clarkson for Messrs. Hoare, Marr, & Co.).—Consent.

Lines of Frontage and Construction.

Fulham.—An iron and glass shelter over the entrance to Walham-green railway station, Fulham-road, Fulham (Mr. H. W. Ford for the Metropolitan District Railway Company).—Consent.

Kennington.—A building in front of No. 268, South Lambeth-road, Kennington (the Acetylene Illuminating Company, Ltd.).—Refused.

Lewisham.—A wood and iron building of a temporary character at the rear of No. 115, Inchmery-road, Lewisham, to abut upon the western side of Thornsbeach-road (Mr. W. A. Vercoe for Mrs. Atkinson and Mr. G. Laurence).—Consent.

Lewisham.†—The retention of two wood and glass show cases of a temporary character in front of No. 205, High-street, Lewisham (Mr. A. H. Cozens).—Consent.

Marylebone, East.—The retention of a show-case of a temporary character in front of No. 24, St. John's Wood-terrace, St. Marylebone (Mrs. A. Barling).—Consent.

Wandsworth.—An iron and glass shelter in front of the Theatre of Varieties, High-road, Balham (Mr. B. Crewe).—Refused.

Wandsworth.—An extension of the periods within which the erection of a temporary wood and iron building on the western side of Putney Bridge-road, Wandsworth, was required to be commenced and completed, be granted (Mr. W. J. Harris).—Consent.

Space at Rear.

Wandsworth.—The conversion of an office building on the southern side of Drewstead-road, Streatham-hill, into a dwelling-house (Mr. J. J. Taylor for Messrs. Meech & Goodall).—Refused.

Deviation from Certified Plan.

Limehouse.—Deviations from the plan certified by the District Surveyor, so far as relates to proposed alterations at No. 593, Commercial-road, Limehouse (Mr. D. Watney for the Mercers' Company).—Consent.

Whitechapel.—Deviations from the plan certified by the District Surveyor, so far as relates to the proposed rebuilding of No. 30, Little Alie-street, Whitechapel, and the cow-sheds at the rear abutting upon Plough-street (Messrs. North & Robin for Mr. J. Lewis).—Consent.

Height of Building.

City of London.—Raising a portion of the Cripplegate Institute, Golden-lane, City, to a greater height, next to Cripplegate-street, than the width of such street (Mr. F. S. Hammond for the Governors of the Cripplegate Foundation).—Consent.

Uniting of Buildings.

City of London.—A deviation from the plans approved for the further uniting of Nos. 111 and 113, Queen Victoria-street, City, without requiring the floors of the buildings to be made fire-resisting, so far as relates to an alteration in the means of escape to be provided (Messrs. Hudson & Booth).—Consent.

City of London.—The uniting of No. 40A and 41, Queen-street, City, at the ground and third floor levels (Messrs. Turnbull & Son for Messrs. A. W. Thompson & Co. and Apfel Brothers).—Consent.

Finsbury, Central.—Formation of openings at the second, third, and fourth floor levels between two factory buildings abutting upon St. John's-place and St. John's-square, Clerkenwell (Messrs. J. Lyons & Co., Ltd.).—Consent.

Holborn.—A deviation from the plans approved for the formation of openings in the party walls between No. 55, Eagle-street, Holborn, and a building in the rear abutting upon Yorkshire Grey-yard, so far as relates to an alteration in the position of the stairs between the first and second floors of the rear building (Messrs. Bourchier, Burmester, & Galsworthy).—Consent.

Marylebone, East.—The use of revolving steel shutters in lieu of iron doors to two openings in a division wall at the premises of Messrs. Bourne & Hollingsworth, on the western side of Berners-street, St. Marylebone (Mr. J. Slater).—Consent.

Marylebone, East.—The formation of further openings between Nos. 21 and 21A, Henrietta-street and No. 5, Chapel-place, St. Marylebone, at the first, second, third, and fourth floor levels (Messrs. J. Belcher, R.A., and J. J. Joass).—Consent.

Marylebone, West.—The uniting of Nos. 35 and 37A, Duke-street, St. Marylebone, at the basement and ground floor levels (Mr. E. H. Dance for Lady Montgomery).—Consent.

Recommendations marked † are contrary to the views of the metropolitan borough councils concerned.

Legal Column.

A Decision under the London Building Act.

The case of Mason *v.* Fulham Corporation raised an interesting point under the London Building Act, 1894. In 1895 the plaintiff was possessed of a house in Fulham adjoining the Fulham Free Library, and being desirous of rebuilding a party wall he entered into an agreement with the Library Commissioners that if at any time they should use the party wall they should repay him a moiety of the cost of building it. The plaintiff subsequently sold the house, and the conveyance did not purport to assign the plaintiff's interest in the above agreement, and in fixing the price he only included half the cost of building the wall. In 1899 the house was resold to Sir E. Galsworthy, and in 1908 the defendants, who were the successors under the Local Government Acts of the Library Commissioners, being desirous of using the wall, served a notice on Sir E. Galsworthy. A difference having arisen, surveyors were appointed, and an award was made in Sir E. Galsworthy's favour for half the cost of building the wall. The plaintiff then claimed this sum, relying on sect. 99 of the London Building Act, which enacts that "until such contribution is paid the building owner at whose expense the same (*i.e.*, the wall) was built shall stand possessed of the sole property in the structure." The county-court judge read this section as including the successors in title of the building owner, and the Divisional Court adopted this view, and held Sir E. Galsworthy entitled to the money. The lesson to be drawn from the case appears to be that on a sale of property where an expenditure such as the above has been made, and the owner is entitled to some contribution on the happening of a future contingency, the matter should be provided for in the conveyance in express terms. For the construction of a covenant on such lines see the case Irving *v.* Turnbull (1900, 2 K.B. 129), where somewhat similar questions were considered by the Court.

Building Estates and Restrictive Covenants.

The case of Willé *v.* St. John and others, noted the *Builder*, November 27 last, has been the subject of appeal. The facts, which are somewhat complicated, will be found fully set out in our former note, and it is unnecessary to recapitulate them. The Court of Appeal affirmed the decision of the Court below, the point raised being whether the registration of conditions annexed to the land under sect. 84 of the Land Transfer Act, 1875, which provides that "the first proprietor, and every transferee, and every other person deriving title from him shall be deemed to be affected with notice of the conditions," has the same effect as when a building scheme has been defined by a common vendor so as to enable purchasers of land from him to enforce the covenants one against the other. In this case, one Holmes had purchased land from certain trustees subject to certain conditions. He had subsequently sold the plaintiff a portion of this land, and had exacted covenants from the plaintiff that he should observe the original covenants and others imposed by the deed of conveyance, and he had registered these covenants. Holmes had subsequently sold another portion of the land to the defendant by a conveyance expressed to be made subject to the covenants in the conveyance to Holmes, but in which it was stated that Holmes would not object to the erection of a church, although the original conveyance to Holmes contained a covenant that only private dwelling-houses should be erected on the land. The plaintiff attempted to enforce the restrictive covenant against the defendant, but the Court held that as no building scheme existed, for reasons set out in our former note, the registration did not have the effect of creating a building scheme so as to enable purchasers from Holmes to enforce the covenants one against the other.

Railway Companies *v.* Water Supply.

The litigation which occupied the Court on several days between Wilson *v.* Great Western Railway Company has resulted in judgment being given for the defendants. The litigation turned on a deed made in 1863 between the defendants' predecessors and the Great Malvern Hotel Company, in which in effecting an exchange of lands the defendants' predecessors had covenanted to supply the hotel company with a good and adequate supply of water fit for drinking purposes, so far as it was practicable, from springs in their tunnel. One of the hotels was sold in 1869, subject to the benefit of the covenants in the deed, and was being used as a school. In 1907 the water was discovered to be contaminated, and the action was brought for breach of agreement. The railway company denied any breach, and said the water supplied and the method of supply was the same as it had always been, but they further contended that their predecessors had no power to make any such agreement, as it was *ultra vires* their powers as a railway company. The Court, in giving judgment, found that in 1863 there were two buildings supplied, the Great Malvern Hotel and the Malvern Link Hotel, now the school. In 1865, owing to complaints, the water from the springs was led to the Great Malvern Hotel in a 3-in. pipe, the other building being supplied by a 4-in. pipe, and the water to this pipe did not come from the springs, and was waste water, and this was the state of things when the Malvern Link Hotel was sold. The Great Malvern Hotel required the whole of the spring water, and there was no other water except the waste water, which the defendants could supply. The conditions were the same for forty years, except for increased traffic, and the company had fulfilled the conditions of the covenant. As regards the point as to the company's powers, the court intimated that a contract to supply surplus water from their premises would not be *ultra vires*, but a contract to lay mains, etc., and obtain and maintain a supply of pure water for all time would be *ultra vires*.

Application of By-Laws.

The report of the Islington Borough Council in reply to an inquiry from the London County Council whether the by-laws made by the London County Council under sect. 202 of the Metropolis Management Act, 1855, require amendment in consequence of the decision in the case of Kershaw *v.* Brookes (noted the *Builder*, July 24 last), was published by us last week, and recommends that the by-laws shall be amended so as to make the builder or contractor carrying out the work equally with the owner liable for any infringement of the by-laws. There is much in the report with which we should be in agreement if the Islington Borough Council have placed a correct interpretation upon the decision of the Divisional Court in Kershaw *v.* Brookes, and that case decided that the owner was in every case the person to be summoned, but we venture to think that is not the case. The Divisional Court did not decide that under the by-laws "the person who shall erect a new building," or "the person who shall construct or reconstruct any pipe, drain," etc., must in every case be the owner of the building, but only on the facts of that case where a plumber was employed by a building owner who was himself a builder, and in the absence of any evidence of the circumstances under which the work was undertaken, that the deduction could not be drawn that the plumber had placed himself in the position of the person ordering the work so as to be amenable to the by-laws. The Local Government Board has already pointed out that whether a person is or is not the person within the by-laws depends upon a question of fact, and this is all that was decided in the case. The Borough Council appears to have been startled by a decision which really turned

upon absence of proof easily to be given, and we think no amendment of the by-laws is called for, as if mere agents carrying out trifling operations are brought within the by-laws it will only make confusion. The case of Kershaw *v.* Brookes was brought before the Court without adequate proof of the necessary facts and has no wide-spreading application, the absence of any authority which could be quoted on the point proves that it was an isolated case, and that no difficulty in practice has ever been experienced over a number of years.

Competition News.

PROPOSED INTERNATIONAL TELEGRAPH MONUMENT.

An international competition is proposed for the erection of a monument in Berne in memory of the foundation of the international telegraph union. It is organised by the Swiss Federation, and is to close on August 15 of this year. Twenty thousand francs are to be disposed of in premiums; the monument is to be executed by the sculptor selected by the jury. The international jury of twelve members will include four architects not of German nationality. The monument is to be erected on the Helvetia Square in Berne, the style and the choice of the material being left to the artists. A fountain may enter into the design. The entire cost is not to exceed 170,000 francs. The details required are a model to 1-10th scale, a plan to 1-200th, and a perspective view of the square and monument. In the event of the jury not selecting a design for execution they may hold a closed competition amongst the prize-winners.

OLDHAM TOWN HALL EXTENSION.

The Oldham Corporation have appointed Mr. G. H. Willoughby, F.R.I.B.A., of Manchester and St. Annes-on-Sea, to act as their adjudicator on the competitive designs submitted by architects for their Town Hall extension, at an estimated cost of 25,000*l*.

SCHOOL, HAMPSTEAD GARDEN SUBURB.

Hendon Education Committee have selected the following architects to compete by sending in plans for the new school at the Garden Suburb:—Messrs. J. Hudson, York-place, W.; G. E. T. Laurence, Strand, W.C.; Meed & Arnell, Berners-street, W.; Spalding & Spalding, Cheapside, E.C.; A. Hessell Tiltman, Gray's Inn-road, W.C.; W. G. Wilson, Hart-street, W.C. The Committee are to assess the plans themselves.

Correspondence.

FRENCH RENAISSANCE CHURCHES.

SIR,—I have read with much delight and deep interest Mr. Ward's very able and learned paper as reported and illustrated in the *Builder*. Of course, there are too many churches in France containing characteristics of the fusion alluded to to include them all; it would be well if a complete list could be got at. I have visited very many of those mentioned, and venture to name a few more (from memory) which I fancy combine Flamboyant and Renaissance features:—

Auch Cathedral, Avignon, Argentan, Abbeville, Amboise, St. D. de Brou, Cathedral of S. Bertrand de Comminges, Caudebec, Conches, S. Remi Dieppe, Darnétal, Evreux Cathedral (woodwork in), Etampes, Epau, Envermeu, Fontevrault, Meillant (Chapel of Château), Mesinères, Nantes, St. Nicolas d'Aliermont, Neuchâtel-en-Bray, Nancy, Nevers, Peronne, Pontoise, Provins, Remiremont, Rançon, Riom, Saumur, Toul, le Treport, Valoques, Vaux-sous-Laon, Vienne, St. Wandrille.

I have visited all these, and fancy there are few, if any, that do not show the combination alluded to, where the union of the older Gothic forms with Classical features may, more or less, be readily traced.

E. SWINFEN HARRIS, F.R.I.B.A.

THE LOCAL GOVERNMENT BOARD AND REINFORCED CONCRETE.

SIR,—The attitude of the Local Government Board or their engineer in refusing to allow loans to local authorities for the construction of works in reinforced concrete on the same terms as in cases where other materials are used is by this time sufficiently notorious. But we think that the hardship inflicted upon small local authorities, and upon firms such as our own, whose business it is to design or carry out work in the material is not fully appreciated. We should like, therefore, to call attention to a recent case (which is far from being an isolated one) in which we have received a letter from our client stating that he has just been informed by the Local Government Board that only ten years can be allowed for a loan with which a reinforced concrete tank was to be constructed, and that, therefore, the project must be abandoned. Several designs for this tank have been prepared by us, and negotiations have been continued between the contractor, our client, and ourselves for some months; yet when these have been brought to a conclusion that is eminently satisfactory to the would-be owners of the tank, owing to the economy both in original cost and up-keep of reinforced concrete as compared with any other material, the whole of the trouble and expense is absolutely thrown away by the action of the Local Government Board. In addition to the waste of labour thus caused, the Local Government Board are preventing the local authorities in question from reaping the benefit of the economy and other advantages of this material.

That such advantages do actually exist, and are not merely the product of imagination, is sufficiently proved by the action of the Admiralty, War Office, Board of Works, railway companies, and large commerical firms, who have to such a large and increasing extent embarked upon the use of reinforced concrete.

It is absurd to suppose that such bodies would adopt a material whose life was supposed by their technical advisers to be only ten years. Up to the present, deputations, correspondence, and personal interviews have all met with the same fate, and have proved to be utterly ineffectual in obtaining the necessary consideration.

The President of the Local Government Board is no doubt ruled in these matters by his chief technical adviser, but surely when the consensus of professional opinion is so clearly against the advice which appears to be given to him, it would be to the public advantage if a committee of independent experts were appointed by the President of the Local Government Board to advise him as to whether the action of his technical adviser is in accordance with the accepted opinion of the engineering profession, or is the outcome of a more or less personal bias against the particular material in question.

PATENT INDENTED STEEL BAR CO., LTD.

THE INSTITUTE OF SANITARY ENGINEERS.

A SESSIONAL meeting of the Institute of Sanitary Engineers was held on the 2nd inst., when a paper by Mr. C. E. Lawton, on "The Bacterial Treatment of Sewage," was read. In the course of his remarks he referred to sludge disposal, and said that the efficient and economical disposal of the sediment from tanks was the most difficult problem in the whole of the operations to be performed at the sewage disposal works. It was largely a question of the best means of separating the 90 per cent. of water from the 10 per cent. of solids, which comprised what was known as sewage sludge.

In rural situations where suitable land was available it might be run into shallow grips cut into the soil, and afterwards covered over with the excavated mould from the furrow, the object being to remove the liquid portion of the sludge by percolation into the soil of the adjoining ridges, allowing the bacteria of the soil to oxidise the organic matter. The mould thrown over the grips prevented the exposure of the sludge to the direct evaporating action of the sun. As might be supposed, this method was much more efficient in dry, warm weather than in wet and cold weather, and a light soil was essential. On the drying of the sludge the ridges might be "split" into furrows or grips and the operation renewed, and on the subsequent drying the whole site might be ploughed and cropped, until in a fair state to again receive similar treatment, another site being meanwhile utilised for this purpose. Sewage sludge was sometimes run in bulk into shallow lagoons cut into the ground, and if possible under-drained to draw off the liquid; when sufficiently stiff the remaining matter was dug out, removed, and used as manure on arable land. Lagooning was a very slow process in winter time, and the liquid drained from the sludge required efficient treatment, as it was of a concentrated nature. Where land was not available for the treatment of sludge as described it was usually pressed into cake to remove the bulk of the liquid and disposed of as manure if possible, or cremated in a destructor with house refuse. Sludge from septic tanks was more difficult to press than that produced by chemical precipitation.

As an alternative to tank treatment, the sewage after being screened and relieved of its grit might be run into primary contact beds, which consisted of tanks containing large gauge media (say, of not less than 3-in. gauge), each bed being rapidly filled; its contents were then allowed to lie quiescent to deposit the sediment upon the media, and afterwards drawn off. This treatment was an oxidising one, the organic deposit on the media being attacked by aerobic bacteria in the presence of the oxygen of the air, which entered the bed as the liquid was withdrawn, the bed standing empty for this purpose for a definite period. The matters in solution also undergo changes during the stay of the liquid in the bed. A great feature of this process was undoubtedly the absence of the amount and objectionable character of sludge produced as compared with any tank treatment, but there remained in the bed the finely-divided inorganic solids, colloidal matter, and the humus, which was a product of the oxidisation of the organic matter, and as a small portion only of these was carried away with the liquid on its release the capacity of the beds gradually diminished, until the removal, cleansing, and reinstatement of the media become necessary. This was an expensive operation, and to avoid this drawback Mr. Dibdin introduced his slate bed. This was a contact bed having horizontal layers of slates which were kept a few inches apart by strips of the same material, in lieu of the ordinary media. On the emptying of the liquid contents the major portion of the inorganic solids and humus from previous operations flow out with the liquid, and means were provided for removing, when necessary, any such solids which remained by flushing the layers of slate. The amount of fall required to work such beds, compared with that for continuous tank treatment, was undoubtedly a factor to be reckoned with at most works, but the system appeared to offer a great advantage in the prevention of a large percentage of the foul sludge usually produced under ordinary tank treatment. For further treatment on these lines the media employed might be smaller in size, thus presenting greater surface contact with the liquid, as the solids in suspension were by this stage greatly reduced, and the danger of choking relatively minimised. Double contact was necessary to obtain a non-putrescible effluent, the lower bed being provided with fine gauge media. The effluent of a contact bed varied in quality, the first flush of water being much inferior to the drainings. This was accounted for by the fact that the first liquid to be discharged was that lying in the drains and the large bottom media, and which consequently had not been subjected to the same amount of treatment as the liquid in contact with the finer material. The depth of contact beds was often decided by the available fall, the average being perhaps 4 ft., but the minimum should not be less than 2 ft. 6 in. The number of fillings per twenty-four hours varied with circumstances, but the most usual was three, arranged in cycles of eight hours. The size of individual beds should be proportionate to the dry weather flow, so that a bed might be quickly filled. The proper time of standing full should be empirically ascertained, as this varied with the nature of the liquid, two hours being usually amply; and efficient means of quietly, but quickly, emptying the bed must be provided, in order to give as long a period of aeration as possible. It was important that the liquid applied to a bed should be distributed over the surface as much as possible, or local choking would occur at the point of supply. Distribution was often affected by half-pipes or tiles bedded in the surface of the bed. The beds were generally drained by small size stoneware pipes, or covered channels laid at intervals in the floor of the bed, the space between the drains being filled with large gauge media. Contact beds at small works were often automatically controlled by gear designed to give the necessary rest full and empty, but in the larger works, when the presence of skilled attendants was a necessity, they were usually controlled by hand. The operations associated

with contact beds did not give rise to smell, neither was the sewage visible. The original capacity of contact beds was found by experience to decrease rapidly during the first six months of their use, owing to the deposition of colloidal matter, the presence of low animal life, the retention of suspended solids, and in beds filled with unsuitable material by the disintegration or consolidation of the media. The first two causes appeared to remain fairly stationary after that period, the further decrease appearing to be in direct proportion to the amount of suspended matter in the feeding liquid, thus emphasising the importance of efficient primary treatment. The size of the media employed should also depend upon the amount of suspended matter present, for the smaller the media the greater the retention of the solids, and the greater the liability to choke if the solids were in appreciable quantity. But given a liquid practically free of such matter, fine-gauge media, by presenting a greater surface area to the liquid, would ensure an increase in purification. The character of the media which should be employed in contact beds was similar to that required for percolating filters.

THE USE OF TAR FOR ROAD-MAKING AND REPAIRS.

At a Northern District meeting of the Institution of Municipal Engineers, held on December 18, and adjourned for further discussion at a meeting held at Newcastle-on-Tyne, on February 12, a paper on this subject was read by Mr. William Wade, Divisional Surveyor, Northumberland County Council.

In the course of his remarks he said that our ideal road must possess:—(1) Foothold for the horses; (2) evenness of surface for motor traffic; and (3) permanence of structure for steam traction. The old method of consolidating the stone, viz., that of spreading the broken stone on the road, covering it with 10 per cent. to 15 per cent. of earthy matter, and then floating with water so as to give a hard wearing surface by means of steam-rolling, although eminently suitable before the change of traffic, had failed to meet the extra demands now put upon it. His experience of road-making and repair (extending over many years) was, even after every care had been taken in the construction of a highway, and a seemingly adamantine surface had been obtained, heavy traffic of a few months, especially in wet weather, would cause such displacement and disintegration of the surface as to make the road lose two, at least, of the essentials, viz., smoothness of surface and permanence of structure.

The question was, what was the best and most suitable binder? The consensus of opinion from many and varied sources seemed to indicate that a combination of tar and pitch was, as yet, the best means of combining the varied kinds of stone used in road-making. There were, broadly speaking, three methods of applying tar—(1) Tar-painting or waterproofing the surface; (2) tar-macadam, or mixing tar with the stone previous to its being laid on the road; (3) tar-grouting, or grouting the stone with tar and pitch when the road is being coated.

"*Tar-painting* may be used on either an ordinary road prepared under what I have called the old method, or upon a new stretch of metal. In the case of tar-painting a stretch of road which has carried traffic for some time it is essential that all dust should be removed from the road before the liquid is applied. After the removal the road is then ready for the application of the tar, which is heated in tanks of various sizes. These tanks are fitted with distributors or jets, and tar at the proper temperature is applied by pressure so as to secure a certain amount of penetration as well as equal distribution. The tarred surface has then granite, spar, or other suitable screenings sprinkled over it. The cost of tar-painting works out as follows:—One gallon of tar will cover an area of from 10 to 20 sq. yds., at a cost of from 1d. to 1½d. per square yard.

Tar-macadam.—I have now to deal with the second method, viz., that of thoroughly mixing the stone with tar and pitch previous to its being laid on the highway. This is perhaps better known to you as tar-macadam. As it is absolutely essential that all stone should be perfectly dry and free from moisture, you will readily see that a shed or some covered-in structure will materially help in getting the work done in a speedy and efficient manner. The stone used is of three sizes—2½ in., 1½ in., and ½ in.—and should be free from dust and moisture. The tarring may be done by hand or by machinery. The latter method is much cheaper, and I find that machine-tarred stone is superior to that mixed by hand. After the stone is tarred it is stacked in separate heaps. The best results are obtained when the tarred material is allowed to be undisturbed from one to three weeks before it is applied to the road.

I omitted to mention that the proportion of pitch must be greater for the bottom coat than for the two succeeding ones.

The 2½-in. stone is first put on the road foundation. Above this the 1½-in. is placed, and the ½-in. is used as a finishing coat, over which is sprinkled ⅜-in. dry granite screenings free from dust. Each layer of stone is well rolled before the one above is put on. It is very necessary that more than ordinary care should be taken in the consolidation of the separate layers. When completed the combined thickness of the three coats gives an average depth of 4 in., the depth of material, of course, being greater in the centre than on the sides of the road. A 15-ton roller is preferable, especially if the traffic be heavy, for if a light steam-roller be used when traffic heavier than the roller passes over the road the result will, in all probability, be disastrous for the road. One ton of tarred stone will cover an area of 6 sq. yds., and the average quantity of tar required for 1 ton of stone is 8 gallons and 20 lb. of pitch. The eight miles of tar-macadam laid by the Northumberland County Council cost on the average 2s. 2d. per square yard, inclusive of mixing plant, etc. The roads treated were structurally weak—a penned bottom of 6-in. whinstone was laid down on the existing road to give a good foundation, on which the tarred stone was placed. Good drainage and strength of structure are important factors in the laying down of a successful tar-macadam roadway. The cost of reconstructing a road by means of penning it with 6 in. of whinstone varies from 10d. to 1s. 6d. per square yard, according to the distance the stone has to be brought.

Tar-grouting.—And now I come to deal with the third method, that of tar-grouting the stone with tar and pitch when the road is being coated. Before beginning tar-grouting it is necessary to take into consideration the weight of loads and the nature of the traffic the road is likely to be called upon to carry. This will altogether determine the size of the broken stone, its quality, and the thickness of the coat to be laid on the surface. On roads that carry heavy traffic 3-in. hand-broken whinstone should be used, while on those where there is no motor-waggon or locomotive traffic I would recommend 2½ in. After the stone is laid on it is slightly rolled. The pitch and tar are together heated in tanks to boiling point, and a quantity of creosote oil is added. Stirring is necessary to enable the ingredients to be thoroughly well assimilated. The boiling matrix is poured in the interstices by means of a specially-made can and distributor. Each individual stone is thus thoroughly well grouted and embedded in or surrounded by the mixture. While still hot ⅜-in. slag or whin chippings are applied and properly consolidated with a 15-ton roller until an integral crust is formed.

I consider wet rolling will shortly be a thing of the past on our main highways where motor traffic has to be dealt with.

Tar-painting may with great advantage be used on suburban roads where the traffic is light or where the dust nuisance is greatly felt and watering has to be resorted to. The tar acts as a protection, and protects the life of the road surface *so long as it is dry.* It has this great drawback, being only *externally* applied it breaks up in wet weather, and the combined action of the wheels and horses' feet soon put the roads into an uneven and dirty condition. This, of course, applies to roads where the traffic is heavy. To sum up, tar-painting is not to be compared with either tar-macadam or tar-grouting as far as lasting properties are concerned. The tar in this case is not so much a binder as a protection to the road surface.

Tar-macadam possesses the following advantages:—

(1) The small stone of which the crust is composed being well tarred before being laid on the road gives a compact and smooth surface.

(2) The tar-macadam road is perfectly sanitary and almost dustless, so that cleansing is reduced to a minimum.

(3) It is easily repaired, and the cost of maintenance is 30 per cent. less than that of ordinary macadam.

For motorists it is an ideal road.

Tar-macadam, as no doubt you are aware, is not without its drawbacks. The chief of these, so far as road authorities are concerned, is the heavy initial cost. From the point of view of those using the road the slippery nature of the surface, especially during hoar frosts, is an objectionable feature. However, this remedies itself in course of time by the tar gradually leaving the road dry by evaporation. Locomotive traffic tends to cause the top layer, which is only 1½ in. in thickness, to become separated from the layer below. This, of course, means the break up of the road so far as the crust is concerned. This is the reason why tar-macadam is not adapted for heavy loads.

Tar-grouting differs from tar-macadam in these respects:—

(1) By broken stone being applied in one coat.

(2) The stone is of a uniform size.

(3) Owing to a larger quantity of pitch being mixed with the tar the mixture quickly solidifies and adhesion is instantly secured, in much the same way as is done in wood or granite paving.

The Northumberland County Council have this year tar-grouted 15,436 tons of broken stone on a stretch of upwards of fourteen miles of main road in various parts of the county. This work, I find, can be carried out very satisfactorily by doing one-half of the road at a time. . . . The *cost of tar-grouting is no more than that of repairing a road by the old water-bound method.* . . ."

LONDON AND DISTRICT BOROUGH COUNCILS.

Barnes.—The Surveyor is to report on the advisability of carrying out kerbing, channelling, and paving works in several roads. Plans have been passed for Mr. G. W. F. Bates for four houses in Lower Richmond-road.

Chelsea.—The Council have been informed that it is proposed shortly to rebuild Cook's Ground School. 150*l.* is to be spent during the coming financial year in fitting gas lamps with lanterns of a modern pattern.

Croydon.—The Education Committee propose to erect a new centre for the instruction of boys in handicrafts, at an approximate cost for the building of 800*l.* The following plans have been passed:—Messrs. E. Evans & Sons, twelve houses, Melfort-road; Mr. J. Bonner, six houses, White Horse-lane; Mr. D. Weightman, four houses, Beulah-grove; Mr. F. Windsor, four houses, Old Town; Mr. P. Crowley, twelve houses and one shop, Bingham-road; Messrs. Maides & Harper, four houses, Northampton-road; Messrs. Chown & Sheffield, three houses, Pollards-hill East; Mr. J. Watt, cinematograph theatre, Portland-road.

Greenwich.—A portion of Sun-lane, Shooter's Hill-road, is to be paved and formed. Plans have been passed for Mr. F. Gardiner for two flats in Eversley-road.

Hammersmith.—Plans have been passed for Messrs. Worleys & Armstrong for a building on the site of 271 and 273, King-street. Negotiations are proceeding between the Council and Messrs. Harris & Gillow, surveyors, 451A, Oxford-street, agents for the Popular Entertainments (1906), Ltd., 5, Green-street, Leicester-square, W., with regard to the taking from the Council of 120, King-street, on lease, subject to the necessary consents being obtained. The company propose to erect a building costing approximately 3,000*l.*

Hendon.—The following plans have been passed:—Mr. W. S. Dakers, eighty-eight houses in four new roads off Finchley-road; Mr. W. J. King, six houses, Park-drive, Golder's Green; Mr. F. S. Allan, eight houses, West Heath-drive; Hampstead Tenants, Ltd., six houses, Temple Fortune-hill and Willifield-way, and four houses, Waterlow-court; Mr. J. S. Alder, church hall and classrooms, Flower-lane, Mill Hill; Messrs. Scull & Blake, eight houses, Wroughton-terrace, Hendon; Mr. E. H. Appleton, nine houses, Russell-road; Mr. T. G. Golby, six houses, Hale Grove-gardens; Ecclesiastical Commissioners, four roads, Golder's Green; Mr. R. V. Hart, six houses, Golder's Green-road; Second Hampstead Tenants, four houses, Temple Fortune-hill; Messrs. Sheriff & Co., twelve houses, Montpelier-rise.

Hornsey.—Plans have been passed as follows:—Messrs. Stevens & Sons, Archway-road, stable, workshop, and stores rear of No. 4, Muswell Hill-road; Mr. G. H. Paine, Moorgate-street, four houses, Fortis Green-avenue, Muswell Hill; Messrs. Emden, Egan, & Co., 2, Lancaster-place, Strand, W.C., electric theatre, Frobisher-road, North Harringay; Mr. J. G. Ensor, Stag Brewery, Pimlico, alterations and additions to Hope and Anchor public-house, Tottenham-lane, Hornsey; Messrs. Coleman & Holmes, architects, North Finchley, alterations and additions, 16, Southwood-lane, Highgate; Messrs. Francis Chambers & Son, architects, Cannon-street, have lodged plans for buildings, Norman House Estate, Middle-lane, Hornsey.

Ilford.—At the last meeting of the Council, plans were considered of proposed extensions of the Town Hall buildings, as amended in accordance with present and future requirements. It was decided to instruct the Surveyor to prepare a detailed estimate of the cost. A letter was received from the Secretary of the Town Planning and Garden Cities Company,

Ltd., stating that the Company intended shortly commencing building operations on the Valentines Estate. The following plans were passed:—Mr. A. Haines, four houses, Coventry-road; and Mr. F. G. Faunch, eleven houses, Coventry-road.

Kensington.—Wood paving is to be renewed in four roads during the coming financial year, at an estimated cost of 10,521*l.* Estimates and apportionments have been approved for the making up of Barlby-road as a new street, at a cost of 3,564*l.*, and constructing a sewer, at a cost of 1,704*l.* The stonework is to be repointed and repaired of the chapels in the Council's cemetery at Hanwell, at an estimated cost of 150*l.*

Lewisham.—London-road is to be paved with Aberdeen granite setts, at an estimated cost of 752*l.* A plan and estimate are to be prepared for paving as a new street Girton-road, Sydenham. The following plans have been passed:—Mr. H. E. Davey, buildings, Perry Hill; Mr. A. R. Westworth, addition to the Three Brewers public-house, Willow-walk, Sydenham; Mr. T. A. Boughton, four houses, Bromley-road; Messrs. W. Akers & Co., Ltd., addition to "Armitage Lodge," Wells-road; Mr. H. M. Nowell, Hippodrome, Rushey-green. Messrs. J. W. Heath & Sons have lodged plans for thirty-nine houses in Chudleigh-road and Francemary-street.

Poplar.—Plans have been passed for Messrs. Holman & Goodrham for the building of factory premises on the east side of Fairfield-road, for Messrs. Bryant & May.

Richmond-on-Thames.—Messrs. J. Mowlem & Co. are to lay new sewers and construct new streets in the Red Lion-street area. The following plans have been passed:—Messrs. Brewer, Smith, & Brewer, six houses, Grosvenor-road; Messrs. Soole & Son, additions to Holy Trinity Parish Hall, Lower Mortlake-road.

Shoreditch.—150*l.* is to be spent in the wood-paving of Baccus-walk. Subject to a contribution of 250*l.* from the Central (Unemployed) Body for London, the grounds of St. Mary's Church, Haggerston, are to be laid out.

Southwark.—A sewer in Waterloo-road is to be relaid, at an estimated cost of 150*l.* The following thoroughfares are to be repaved with wood blocks:—Union-street, estimated cost, 3,650*l.*; Red Cross-street to Borough High-street, 800*l.*; Walworth-road, 460*l.*; London-road, 2,560*l.* Ten streets have been selected for asphalting during the coming financial year, at an approximate cost of 11,485*l.*

Tottenham.—A site has been purchased in Bruce-grove for the erection of a convenience. Mr. W. Brown, of Church-road, Tottenham, has purchased the remainder of the land at Tottenham Hale ex-housing estate (approximately 3 acres) at 1,000*l.* per acre. He proposes to erect a rubber factory on the site, and to commence building operations as soon as the land is conveyed to him. The following plans have been passed:—Messrs. F. Ward & Co., factory, Paxton-road; Mr. H. Lebus, brass store, between blocks 9 and 3; Mr. J. Giles, 95, Birkbeck-road, Tottenham, six houses, Mount Pleasant-road; Mrs. Mary Ann Perrin, 31, Townsend-road, South Tottenham, five houses, Bailey's-lane.

Westminster.—Streets of the total area of which 38,325 sq. yds. are in macadam, 3,480 in wood, and 800 in granite are to be paved or repaved during the coming financial year, at an estimated cost of 27,612*l.* Sir Henry Tanner, on behalf of H.M. Office of Works and Public Buildings, submitted a plan of a proposed diversion of the sewer in Great Scotland-yard. The Works Committee have agreed to the proposed diversion.

Woolwich.—Part of Rockmount-road is to be made up, at an estimated cost of 649*l.* 13s. 9d., as is also part of Camrose-street.

THE TRIBUNAL OF APPEAL UNDER THE LONDON BUILDING ACT.

THE Tribunal of Appeal constituted under the provisions of sects. 175 and 178 of the London Building Act, 1894, sat on Tuesday at the Surveyors' Institution, St. George-street, Westminster, to hear an appeal by the Berkeley Hotel Company, Ltd., under sect. 22 of the London Building Acts (Amendment) Act, 1905, against the measures specified by the London County Council for providing means of escape in case of fire at the Berkeley Hotel, situated at the corner of Piccadilly and Berkeley-street, Westminster. Mr. MacMorran, K.C., appeared for the London County Council, and Mr. R. A. Gordon for the appellants.

Mr. Gordon, opening the case for the hotel company, said the appeal was against certain requisitions made by the London County Council under sect. 9 of the Act of 1905, the Berkeley Hotel being a building in which sleeping accommodation was provided for more than twenty persons. The notice was served on October 13, 1909, and contained twenty-one requisitions, and on December 8 the hotel company served notice of appeal in respect to twelve. Certain correspondence had passed between the parties, and the result was that the appellants were here to ask the decision of the Tribunal in regard to six requisitions only. They objected to being required to put up a number of doors across certain of the corridors, to being compelled to erect a new staircase on the fifth floor, to erecting a partition on the fourth floor, and to removing certain large door fasteners on the same floor. The Act stipulated that there must be proper and sufficient means of escape from fire in places where more than twenty persons either slept or were employed, and he thought he would be able to satisfy the Tribunal that at the present moment this hotel was absolutely safeguarded from any danger from fire, and that there were ample means of escape provided in the event of a conflagration.

Counsel then went at great detail into the construction of the hotel and the means of escape from fire, and, in regard to the requisition for a new staircase going up to the roof, he said that their alternative suggestion was that they should put a lobby between two bedrooms and carry a staircase properly protected down to the floor below. They were advised that if anything further was needed there that was the better scheme. He wished to make it quite plain that the matter was not one of expense with the hotel company, but simply one of convenience. With regard to the swing doors which the council required them to put across the corridors, they very strongly objected to them, as they were absolutely unnecessary. They had a main staircase absolutely enclosed by two huge doors, and there was no need whatever for the proposed swing doors. They would cut into the corridors, and would cause a great deal of inconvenience to the service. Whatever rules they might make, the servants would be certain to keep the doors wedged open, and, instead of being a protection in case of fire, they might prove veritable death-traps.

Mr. MacMorran, K.C., remarked that the swing doors were required for the protection of the floors above—to prevent the smoke getting up the staircase.

Mr. Robert Griggs, A.R.I.B.A., F.S.I., said he had been engaged by the Berkeley Hotel Company in the capacity of architect and surveyor since 1888. Speaking generally, he considered that there were very numerous exits to provide for the safety of persons in the hotel. The walls of the main staircase were of brick, the staircase itself was of stone, and the openings connecting with the corridors were fitted with fire-resisting doors. The capacity of the staircase was very nearly 30,000 cubic ft. He failed to see the utility of the swing doors; on the contrary, they would be a serious hindrance to persons trying to escape along the corridors, and they would be an unmitigated nuisance to the service of the hotel.

Witness put in a plan showing that there was only one staircase leading from the basement to any floor above the ground floor, and if a fire-resisting chamber was made in this at the ground-floor level there would be no necessity for the swing doors.

As a result of discussion between counsel, Mr. MacMorran agreed to accept the alternative proposal of the appellants relative to the new staircase if the Tribunal came to the conclusion that such a provision was necessary.

Cross-examined by Mr. MacMorran, the witness said he took very great objection to the provision of swing doors. He regarded them as a danger in that they would lead, in the event of fire, to the congestion of the smoke at one particular point, which would deter persons passing through. The new portions of the hotel were of concrete floor construction; the old was timber with lath and plaster ceilings. If the swing doors were of any use from the point of view of fire prevention, then he would agree that their inconvenience should not be allowed to outweigh their adoption. He was strongly of opinion, however, that such doors would be a hindrance and not a help.

Mr. Reeve Smith, the managing director of the Savoy Hotels Company, the owners of the Berkeley Hotel, said he had been resident manager at the hotel for the last fifteen years. There were 100 rooms altogether in the building. Elaborate precautions were taken against fire. There were thirteen hydrants, four hand pumps, and the usual fire buckets all over the building, and fire-alarm discs were placed in prominent positions on each floor. Two night porters acted as watchmen, a round being made of the hotel every hour from the basement to the sixth floor. The proposed swing doors would, in his opinion, constitute a very serious danger to the guests of the hotel in case of fire. They would also be highly inconvenient to the hotel servants. He was acquainted with several large hotels where they had been introduced, and they were invariably propped open. He did not see any necessity for the proposed new staircase, as there was already ample means of escape existing.

Cross-examined: There were a good many of these swing doors in the Savoy Hotel, but they were constantly kept open. He was not aware that the management were thereby committing an offence.

As the result of a consultation between the parties it was agreed between them that a fire-resisting screen should be fixed from the floor to the ceiling in the basement with fire-resisting self-closing doors. Also that fire-resisting self-closing doors should be put up in the corridor on the first and second floors.

Mr. Percy Tubbs, F.R.I.B.A., gave it as his opinion that the new staircase on the fifth floor was not necessary, the main staircase affording ample means of escape in case of fire. In the event of some other exit being considered necessary, he agreed with Mr. Griggs's scheme rather than with that of the London County Council. The swing doors suggested to be placed across the corridors were not necessary, and in case of a panic might be a source of serious danger. People would be approaching the doors from opposite directions, and that in itself would tend to cause an obstruction. It was another try on the part of the London County Council to introduce smoke lobbys, and, personally, he thought they were a great nuisance and no advantage.

Mr. MacMorran called Mr. J. C. Stransom, A.R.I.B.A., who said he was an architect in the escape section of the Superintending Architect's Department of the London County Council. The idea of screens and doors such as were asked for in this case were designed to prevent smoke going all over the building and across the staircases. Even since January 1, 1906, he had known lives lost through fire owing to the absence of such doors. There were 480 hotels, including clubs, in London, and twenty-two fires took place in them annually. In the last twenty years there had been six lives lost in hotels, restaurants, and boarding-houses in London. The main risk of fire was from the basement, and, if necessary, he could give instances of that from recent fatal outbreaks. He thought that the requirements of the London County Council were extremely reasonable, and were the minimum that should be insisted upon. They might have made them more drastic, but they had to be "reasonable" by the Act of Parliament. The swing doors were put in a great many London hotels, and also in other buildings, and they were the only means of preventing the whole of the staircase being one fire risk.

Mr. W. J. Ancell, architect to the new Victoria Station and the Strand Palace Hotel, said he considered the swing doors asked for by the Council very desirable. He had found that there was a demand for these doors of late years. His experience in hotels had not led him to believe they were any inconvenience—a few waiters might grumble at them. They were very necessary for the protection of the staircase against any smoke coming in the opposite direction. He agreed with the previous witness that the requirements of the London County Council were the minimum that should be asked for.

Mr. Dyer, a divisional officer in the London Fire Brigade, gave similar evidence to the previous witnesses, and said he was strongly of opinion that in the event of a fire occurring in the hotel the swing doors would be a great advantage indeed in affording a means of escape.

Mr. MacMorran briefly addressed the Tribunal, and contended that the inconvenience of a swing door in the corridor was really very small, and if they were of use in diminishing danger from fire, then he asked the Tribunal to say that the requirements of the London County Council were reasonable. He should regard the decision as a very important one, as it would govern other cases.

The Chairman, Mr. A. A. Hudson, remarked that counsel might take it that whatever decision they might arrive at would apply only to this particular case.

Mr. MacMorran said that, while that was quite true, the Tribunal could not help the principle of their decision being acted upon, or sought to be acted upon, in future cases. It would undoubtedly form a guide to the London County Council, even if they did qualify their decision by saying that it was limited to the facts of the present case.

The Chairman announced that the Tribunal would reserve its decision.

PROJECTED NEW BUILDINGS IN THE PROVINCES.

ALDENHAM.—Proposed school; Surveyor, Hertfordshire County Council.

Backworth.—School; Mr. Forrest, architect, Moot Hall, Newcastle.

Beneden.—Mortuary; Surveyor to Rural District Council.

Benwell.—Parish hall; the Vicar.

Brentwood.—Row of shops and warehouses; Messrs. W. A. Wilson & Co., architects, High-street, Brentwood.

Chatham.—Proposed school for girls (200 places); Architect, Education Committee, Kent County Council. The Town Council have passed the following plans:—Six houses, Dale-street, for Mr. A. G. Webb; three houses, Gordon-road, for Mr. J. Pennell; rebuilding White Lion public-house, High-street, for Mr. W. E. R. Randall, jun.

Chelmsford.—Stables and depôt buildings; Borough Surveyor, Chelmsford.

Cockton Hill.—Baptist church; Trustees, Cockton Hill.

Cove and Hawley.—Enlargement and improvement to school (2,700*l.*); Secretary, Education Committee, The Castle, Winchester.

Dunfermline.—Workshops, for Messrs. Normand & Thompson, engineers, Dunfermline.

Earby.—School, Alder Hill; County Architect, Wakefield.

Eastbourne.—Church, St. Mary-in-the-Park; Vicar, Hampden Park, Eastbourne.

Edenbridge.—School (200 places); architect, Education Committee, Kent County Council.

Folkestone.—Proposed assembly hall at school for girls (475*l.*); Architect, Education Committee, Kent County Council.

Footscray. — Enlargement of Longlands Council School (2,000*l.*); Architect, Education Committee, Kent County Council.

Furnace.—School; County Architect, Carmarthen.

Gloucester.—New wards at workhouse; the Guardians, Gloucester.

Great Saughall.—Additions, All Saints; Mr. J. Taylor, architect, 7, Chapel-walk, Manchester.

Grimsby.—The Town Council have passed plans, lodged by Mr. H. Emerson and Mr. R. Johnson, for houses on the Cow Close Estate.

Hallatrow.—Hotel; Welton Breweries, Ltd.

Halstead.—School (1,254*l.*); Mr. C. E. Skinner, builder, Railway-street, Chatham.

Hatfield.—House and buildings, Travellers-lane (283*l.*); Mr. John Naden, builder, Pond-hill, Hatfield.

Hayward's Heath.—Almshouses; Messrs. Clayton & Black, architects, Prince Albert-street, Brighton.

Herne Bay.—Additions at school (725*l.*); Messrs. Ingleton Brothers, builders, Herne Bay.

Hilsea.—Convenience; Mr. Murch, Engineer, Town Hall, Portsmouth.

Hitchin.—Additions to Petty Sessional Court (330*l.*); County Surveyor, Hertfordshire County Council.

Hull.—Theatre; Messrs. Freeman, Son, & Gaskell, architects, Hull.

Irlam.—Premises, Liverpool-road, for Labour Club.

Lancaster.—Extension, County Asylum; Mr. H. Aspinall, architect, 36, Dale-street, Liverpool.

Leamington Spa.—Extension, Pump-room; Messrs. Quick & Lee, architects, The Parade, Leamington.

Llandyssil.—School; Mr. V. Morgan, architect, Spilman-street, Carmarthen.

Llanelly.—Park church; Mr. G. Moxham, architect, Wind-street, Swansea.

Llanhilleth.—One hundred and fifty houses; Mr. C. T. Evans, architect, Llanhilleth.

Lowestoft.—The Town Council have passed the following plans.—Motor garage, London-road South, for Mr. W. Millward, on behalf of the Lowestoft Motor Company; alterations to Gas House Tavern, East-street, for Messrs. Steward & Patteson.

New Brighton (Merthyr).—School; Mr. Thackeray, Town Hall, Merthyr.

Northampton.—Church (4,000*l.*); Trustees, Abington-avenue Congregational Church, Northampton.

Northfleet and Denton.—Additions to school (3,699*l.*); Messrs. G. Baker & Son, builders, 133A, High-street, Strood.

North Sheen.—Mission church, St. Peter's; Rev. R. M. F. Davies, North Sheen.

Patcham.—Mortuary; Surveyor, Rural District Council, Sheyning East.

Plymouth.—The Town Council have passed the following plans:—Additions, Grey Coat School, Gibbon-street, for the Managers; three lock-up shops, grocery store, and dairy, Peverell Park-road, for the Plymouth Co-operative Society.

Porchester (Southampton).—Two cottages, Red Barn Farm (500*l.*); Surveyor to the Southampton County Council

Ramsgate.—Caretaker's cottage at school (250*l.*); Architect, Education Committee, Kent County Council.

Richmond.—Additions, Holy Trinity Parish Hall, Lower Mortlake-road; Messrs. Soole & Son, builders, Dunstable Works, Sheen-road, Richmond.

Robeston West.—Alterations to church; Messrs. D. E. Thomas & Son, architects, Haverfordwest.

Runcorn.—Six houses, Moseley-street; Runcorn Co-operative Society, Ltd.

Ryhope.—School (14,000*l.*); Mr. W. Cooper, builder, Sunderland.

St. Albans.—Isolation hospital, Folly Mead (3,320*l.*); Surveyor, St. Albans Rural District Council.

St. Ives.—Power plant and buildings; St. Ives Consolidated Mines, Ltd.

Slade Green (Kent).—Additions, church, St. Augustine's; Mr. W. T. Margetts, architect, Rainham, Kent.

Southampton.—The Town Council has passed the following plans:—Twelve houses, Church-lane, for Mr. F. W. Young, jun.; motor garage, rear of 9, East Park-terrace, for Messrs. Ryder & Bowyer; church institute, Albion-place, for Mr. S. C. Greenwood.

Sparkbrook.—Rink; Mr. C. A. Boswell, builder, School-road, Wolverhampton.

Stockport.—Premises, Reddish-road, Stockport Co-operative Society, Ltd.

Stoke.—Town Hall; Messrs. Willcock & Co., builders, Derlington-street, Wolverhampton.

Stone.—Conversion of teacher's house into cookery centre; Architect, Education Committee, Kent County Council.

Stourbridge.—Additions to hospital; Mr. H. E. Foulkes, architect, Hagley-road, Stourbridge.

Swanscombe.—School, Knockhall; Architect, Education Committee, Kent County Council.

Tipton (Staffs).—School; Mr. W. Hutchings, architect, County-buildings, Stafford.

Tonbridge.—School for girls (150 places); Architect, Education Committee, Kent County Council.

Towcester.—Engineering works; Messrs. Sturgess & Son, builders, Roade.

Tunbridge Wells.—Proposed school for girls (200 places); Architect, Education Committee, Kent County Council. Extension, Technical Institute (275*l.*); Architect, Education Committee, Kent County Council.

Wallsend.—School: Mr. G. Forrest, architect, Moot Hall, Newcastle.

Walsall.—Proposed school, Field-street, Bloxwich (6,000*l.*); Architect, Education Committee, Walsall. The Town Council have passed the following plans:—Fitting shop, Bath-street, for Messrs. M. Harvey & Co., Ltd.: casting shop, New-street, Bloxwich, for Mr. A. Wilkes; electric theatre, The Square, for the Electric Picture Palaces (Midlands, Ltd.).

Willesborough.—Additions, school (436*l.*); Messrs. J. Sellick & Sons, builders, 41, Marsham-street, Maidstone.

Wolverhampton.—Extension of granary, for Town Council (330*l.*); Messrs. Gough & Son, builders, 530, Dudley-road, Wolverhampton.

Worcester. — Sunday-school, Rose-hill; Trustees, United Methodist Church.

Wrotham.—School; Architect, Education Committee, Kent County Council.

Yarmouth. — Rebuilding slaughter-house (250*l.*); Borough Surveyor, Town Council. Rebuilding Theatre Royal, for Mr. J. W. Nightingale.

Yelverton.—Church, St. Paul (4,500*l.*); Rev. Prebendary R. J. Hayne.

Ynis-y-Fro.—Filter and retort house; Engineer, Town Council, Newport, Mon.

Obituary.

COLONEL CONDER.

We regret to have to record the death, at the age of 62, of Colonel Charles Conder, R.E., who, outside of his military profession, was an important figure in the archæological world owing to his able and untiring researches into the archæology of Palestine, a task to which, in the analysis of the remains of ancient buildings, he brought his practical structural knowledge as a military engineer. At an early age, being sent out to occupy a post in connexion with the survey of Palestine, he collected an immense number of notes and drawings which formed the foundation of his valuable book under the title "Tent Work in Palestine." He published, later in life, "Memoirs of the Survey of Eastern Palestine," "Heth and Moab," and a recent volume on "The City of Jerusalem." His opinions on some points in the architectural topography of Jerusalem were the occasion, at a meeting of the Institute many years ago, of a rather sharp passage of arms between him and Fergusson, of which we cannot recall the details now, but concerning which we remember that our impression at the time, and that of the meeting generally, was that Conder had the best of it. With all his archæological work Conder was doing a great deal more throughout his life, having held various important positions in Government employ. He was a man both of very varied abilities and of apparently inexhaustible energy and industry, and leaves an honoured name behind him.

General Building News.

ST. NICHOLAS' CHURCH, HEREFORD.

A new floor, gallery, and other improvements have been carried out in this church. The plans were prepared by Mr. W. W. Robinson, architect, of Hereford. Messrs. Wilks & Son were the general contractors, Mr. H. S. Barber carried out the heating and decoration, Mr. J. C. M. Vaughan the electric lighting, Messrs. Ingram & Co. removed and re-erected the organ, and Mr. H. Weaver did the carving. In addition to the work already mentioned, a new rectory is in course of erection. The renovation of the church has cost about 1,345*l.*

NEW VESTRIES, HEIGHAM.

At St. Barnabas' Church, in Heigham, a choir and clergy vestry and organ-chamber have recently been erected. The new work is really a continuation of the south aisle, with a clergy vestry, separated from that of the choir by a pitch-pine screen, and approached from the chancel by a pointed arch, in harmony with the rest of the building, and from the aisle by another filled in with a screen, with panels of tinted glass. The south windows follow the general design of those in the aisle; the clergy vestry is lighted by a window of two lights. The architects were Messrs. Lacey & Upcher, and Mr. G. S. Tinkler, who erected the main building, was entrusted with the work.

CHURCH, COVENTRY.

The foundation-stone has just been laid of the new church of St. Margaret's, at Stoke. Tenders were asked for in August last. That of the Executors of the late Charles Garlick, Coventry, was accepted. The church, when completed, will consist of nave, north and south aisles, north and south transepts, chancel, morning chapel, clergy and choir vestries. It will seat about 650 people. The church will be built of red bricks, with Monks Park stone dressings. The windows will be filled in with Cathedral tinted glass in lead. The site has a frontage to Walsgrave-road of 115 ft. 10 in., and to Argyll-street of 109 ft. 8 in., the total area covered being 1,391 sq. yds. When completed the cost will be somewhere about 6,000*l.*, but the present contract only includes the building of the nave and the north and south aisles, main entrance porch, and baptistry. The architect for the work is Mr. Harry Quick.

CHURCH, WALTON.

A new mission church, dedicated to St. Columba, has been erected at Pinehurst-road, Anfield. The new building gives accommodation for about 250 persons. At the east end is the chancel, clergy, and choir vestry, kitchen, heating chamber, and other offices. The architect for the building was Mr. Leonard Nagington, of Liverpool.

UNITED METHODIST CHURCH, EXETER.

The United Methodist congregation at Exeter are erecting a new church at Mount Pleasant. The new building will be built by Messrs. Westcott, Austin, & White, from designs by Mr. Dunn, of Birmingham.

CHURCH EXTENSION, HORSELL, SURREY.

Additions have been made to the Horsell Parish Church. The scheme consisted of the addition of a new side chapel, a new aisle, and the rebuilding of the organ, at a total cost of nearly 3,000*l.* The heating of the church has also been extended and rearranged. The work has been carried out under the personal supervision of the architect, Mr. W. F. Unsworth, of Messrs. Unsworth, Son, & Triggs, Petersfield. The builders were Messrs. Wheeler Brothers, of Reading.

PRESBYTERIAN CHURCH, NEWTOWNSTEWART.

A new Presbyterian church has been built in Newtownstewart at a cost of about 3,000*l.* The walling is of local stone, with dressings of Dungannon sandstone. A nave with two transepts gives accommodation for 325 sitters. Two church rooms with revolving shutter partitions occupy the rear, and beneath them is the heating apparatus, supplied by Messrs. Musgrave & Co., Ltd., Belfast. The lead glazing is by Messrs. Campbell Brothers and the stone carving by Mr. Begley, Omagh. The gates and railings were supplied by Messrs. Riddell, Ltd. An acetylene apparatus has been installed by the Sunbeam Acetylene Gas Company. The general contractor was Mr. Hutcheson Keith, and the architects were Messrs. Young & Mackenzie, Belfast.

PARISH CHURCH ENLARGEMENT, MOSELEY.

The enlargement of the Moseley Parish Church has now been completed. The first enlargement of the church of any importance was in 1885, when the north aisle was added. Two years later the organ-chamber was built, and in 1891 the vestry was added to the church. The chancel and chancel aisle were erected in 1899, all these works having been carried out from the plans of the late Mr. J. A. Chatwin. The last stage of the work of enlargement was begun last year, under the direction of Mr. P. B. Chatwin. It has cost 7,000*l.*, and includes the rebuilding of the nave and the erection of a new south arcade, above which clearstory windows have been introduced. The south aisle has been widened, and new porches built at each end. For the old flat ceiling an open timber roof of red deal has been substituted. The capitals of the columns supporting the arcades have been carved by Messrs. R. Bridgeman & Sons, of Lichfield.

COUNCIL SCHOOL, ST. MARY CRAY.

A new Council school has been erected at St. Mary Cray, at a cost of 3,500*l.* The building is of red brick, and is planned on the central-hall system. The school provides for the accommodation of 300 children. It was erected to the designs of the Kent Education Committee's Architect, Mr. Robinson, by Mr. Skinner, of Chatham.

SCHOOL, KINNING PARK, GLASGOW.

The new Roman Catholic School of St. Margaret's, Kinning Park, has just been opened. Four stories high to Stanley-street, the building, of stone, has three entrance doors. The infants' entrance is in the centre of the building, leading to a large corridor, which branches right and left, with a suite of eight classrooms all on the ground floor, with cloakrooms, teachers' rooms, and playground to the rear. The boys' entrance from Stanley-street is at the south end of the building. On the first floor is a playground, which will also serve the purpose of a central hall and drill ground; while there is also a cloakroom and a manual instruction-room. Immediately over this playground are the boys' classrooms, numbering eleven, with teachers' rooms, cloakrooms, and lavatories. At the north end of the building is the girls' entrance. On the

third floor there are ten classrooms, five cloak-rooms, teachers' rooms, and lavatories. Two corridors run from end to end of both the boys' and girls' floors. The girls' playground is on the fourth floor, a large portion of it being covered over by an awning. At the back portion of this floor there are two classrooms for supplementary work. In the building to the rear provision is made for a washing-house and a laundry, besides a medical examination-room and bathroom. The architects are Messrs. Bruce & Hay, I.A., Glasgow.

COLLEGE EXTENSION, RAMSGATE.

A new school has been added to St. Lawrence College, St. Lawrence-on-Sea, Ramsgate. The extension has been erected from designs by Mr. Stanley H. Page.

VICARAGE AND PARISH HALL, SLEEKBURN.

A site adjoining the main road near Bedlington Station was procured some years ago by the vicar of Bedlington for a new church, vicarage, and parish hall. The church has already been completed, and the parish of St. John's has been formed. The church cost 4,560*l*., including boundaries, vestries, mosaic chancel, flooring, and carved oak chancel fittings executed by Mr. Ralph Hedley, of Newcastle. The painted east window was by Messrs. Clayton & Bell, of London. The vicarage is now being constructed at a cost of 1,500*l*. The walling up to the first floor level is faced with local pressed red bricks, with stucco above, and with green slates and oak barge-boards to the roof. On the ground floor there is an entrance hall, with lavatory, etc., three reception-rooms, kitchen, sculiery, larders, and outbuildings. The two other floors contain the usual bedroom accommodation, etc. A small parish hall is also now being built upon the site. Mr. A. B. Plummer, the Diocesan Surveyor, is architect for the whole of the work, and Messrs. J. Goulding & Son, of Blyth, are the contractors.

NURSES' HOME, LEICESTER.

A new home for the nursing staff has been erected in connexion with the Leicester Infirmary at a cost of 22,000*l*. The home is an isolated block erected on the south-west portion of the site, and is planned in the shape of the letter "E." The main front of the building, 208 ft. long, faces due south, and the wings east and west respectively. The main building is four stories high above the ground, the communicating corridors, recreation and lecture rooms on the north side of the building being one story high only. There is a basement underneath nearly the whole of the buildings, which provides ample accommodation for boxrooms, storerooms, and workshops, etc. The elevations have been carried out chiefly in wire-cut pressed bricks, the roofs being covered with Burlington slates. The construction of the building throughout is of a fire-resisting character. The whole of the floors consist of concrete, finished with terrazzo paving in the corridors, sanitary apartments, etc., the whole of the sitting-room and bedroom floors being polished Stonwod. The partitions are of solid plaster, strengthened with a steel core. The building is heated throughout by steam vapour coils, in addition to which fireplaces are used. The fittings throughout have been specially designed by the architects, Messrs. Everard, Son, & Pick. The building contractors were Messrs. H. Herbert & Sons, Leicester.

IMPROVEMENTS, WHITLEY BAY.

An inquiry was recently held by Mr. A. G. Drury, M.Inst.C.E., Local Government Board Inspector, with regard to an application of the Whitley and Monkseaton Urban District Council for sanction to borrow 3,600*l*. for the extension of the promenade from Eastcliffe to Promontory Point and 800*l*. for improvements to the seabanks adjoining such extension. It was explained to the Inspector that if the work was carried out it would complete the promenade practically to the boundary line dividing the district from Tynemouth. The work on the seabanks would be a much-desired improvement. It was intended to lay the land out as had been done in other parts of the district, and also to build a bandstand. Mr. A. J. Rousell, Surveyor, was present at the inquiry, and gave evidence.

REINFORCED CONCRETE CONSTRUCTION, NEWCASTLE-ON-TYNE.

An extension has just been made to Messrs. Thos. & Wm. Smith's Ropery, St. Lawrence-road, Newcastle. The new building is 375 ft. long by 45 ft. in width, and is constructed of ferro-concrete on the Hennebique system. A feature in this work is the use of reinforced concrete for girders of 23 ft. span running the whole length of the building, on which a 20-ton electric crane travels constantly. Another feature is that the roof, tie-beams, king-posts, principal rafters, and purlins are all built of reinforced concrete. The roof covering is glass throughout, and is on the Pennycook system. A gallery, 20 ft. in width, built to stand heavy loads, runs alongside the crane track the full length of the building, while convenient staircases, loading docks, and platforms assist in making a ropery of the most efficient and up-to-date type. A retaining wall, 18 ft. deep, also of ferro-concrete, runs along the outside of the building on the river side. The new works were designed by Mr. J. Mitchell Moncrieff, M.Inst.C.E., Newcastle-on-Tyne, for whom Mr. J. M. Rounthwaite, Assoc.M.Inst.C.E., acted as resident engineer. Messrs. Brims & Co., contractors, of Newcastle-on-Tyne, carried out the work as licensees of the Hennebique system, for which Messrs. Mouchel & Partners, of Newcastle and Westminster, are the agents in this country.—*Newcastle Chronicle.*

NEW MECHANICAL LABORATORY, DUNDEE COLLEGE.

It is proposed to build a new mechanical laboratory at University College, Dundee. The plans have been prepared by Messrs. Rowand Anderson & Paul, architects, Edinburgh, and provide for a building of the same style as the Carnegie Physics Laboratory, with accommodation for hydraulic and civil engineering and architecture. It is to be erected on the grounds of Union Mount and Ellenbank, and abut Small's Wynd. The total estimated cost is about 11,000*l*.

PROPOSED NEW RECEIVING HOME, LINCOLN.

The Lincoln Board of Guardians have approved a sketch-plan of a new receiving home, prepared by Mr. W. Mortimer, architect. The home proposed will accommodate twenty children, ten boys and ten girls or infants, and the estimated cost is 2,000*l*.

THEATRE IMPROVEMENTS, ABERDEEN.

The local authorities have sanctioned the plans for the conversion of His Majesty's Theatre, Aberdeen, into a music-hall, to be known as the Tivoli. The plans for the reconstruction have been prepared by Messrs. Matcham & Co.

PROPOSED NEW COUNTY OFFICES, OXFORD.

The Oxfordshire County Council have approved plans prepared by the County Surveyor for providing additional accommodation and offices for the staff and clerks of the Council. The scheme is estimated to cost 7,750*l*.

DRILL-HALL, TONBRIDGE.

New headquarters have been provided for the Territorial Companies stationed at Tonbridge. The construction of the new building was entrusted to Messrs. E. Punnett & Sons, builders and contractors, Tonbridge, and the plans were prepared by Mr. J. W. Little, architect, Tonbridge. The cost of the work was about 1,000*l*.

PROPOSED RECONSTRUCTION OF MASONIC LODGE, ABERDEEN.

Plans have been prepared by Mr. A. Hunter Crawford for the proposed reconstruction of the Grand Lodge premises in George-street. The scheme is estimated to cost about 30,000*l*.

TEMPERANCE HALL, DARLINGTON.

The Darlington Temperance Society have erected a new hall in Gladstone-street, Darlington. The work has been carried out to the plans of Messrs. Clark & Moscrop. The hall has a seating capacity of about 600 persons, and the cost, including the furnishings, amounted to about 1,750*l*.

TRADE NEWS.

The Infectious Diseases Hospital, Darwen, is being warmed and ventilated by means of Shorland's double-fronted patent Manchester stoves, with descending smoke flues, and patent exhaust roof ventilators, supplied by Messrs. E. H. Shorland & Brother, of Failsworth, Manchester.

The fitting-up of five shops which Messrs. Arding & Hobbs had taken in order to carry on business till their main premises are rebuilt, seems to have been the occasion recently of a remarkably rapid piece of work on the part of Messrs. Stanley Jones & Co., the shop-fitters entrusted with the work. Within four hours of the receipt of particulars as to what the firm required detailed drawings, specifications, and estimate for the work were got out, and within two hours of receiving the official order the first portion of the woodwork was passing through the machines, while four hours later forty joiners were engaged putting the fittings together. The entire contract was to be and was actually completed within ten days from the date of the order, in which work some 150 men were employed.

Messrs. W. Harland & Son (Merton) send us a box of specimens of the effect of their scumble stains, which are said to combine the uses of a scumbling material and a powerful permanent stain for all kinds of outside and inside work. Only one coat is required. They are made up in crimson, green, yellow, blue, mahogany, rosewood, and walnut.

Miscellaneous.

THE SALE AT HOLME LACY.

A total sum of 31,380*l*. has been realised by the sale, by Messrs. Knight, Frank, & Rutley, of that portion of the collection belonging to Lord Chesterfield. A chair in oak, of old Spanish carpentry, covered with stamped leather, is secured for the South Kensington Museum; the beautiful Chippendale break-front bureau bookcase, 76 in. by 90 in. high, in carved mahogany, of Chinese design, with a pagoda-shaped top, of which we recently published an illustration, was bought by Mr. M. Harris, for 2,000 guineas; an Italian majolica plate, 16 in. wide, for 500 guineas, and an Urbino majolica salver, inscribed "Curtio van ano. 1556," 19½ in. wide, for 155 guineas; the Charles II. state bedstead, with domed canopy and heavy cornice, and covered in rich crimson silk, was sold for 750*l*.; three panels of old Brussels tapestry, 10½ ft. high, with mythological figures—950 guineas (Herbert); and a James I. carved oak refectory table, 22 ft. 9 in. long, on eight legs—340 guineas (Gill & Reigate). Of the Grinling Gibbons' carvings, executed for Lord Scudamore, who died in 1697, we may mention the carved and gilded mantel decoration, 16 ft. high by 9 ft., from the salon, enclosing a full-length portrait of Lady Frances Holt, surmounted with an eagle, monogram, and coronet, beneath festoons and swags of fruit, flowers, etc.—950 guineas; two richly-carved overmantels—1,825 guineas; and a similar carving—900 guineas. Other notable lots comprised a Buhl writing-table, with ormolu mounts in Gouthière masks, 82 in. by 42 in., a gift in 1634 of the King of France to Lord Scudamore—575 guineas (Lewis & Simmons); a Queen Anne walnut side table, and a pair of William and Mary walnut marqueterie side tables—580 guineas (Sims); a set of nine Charles II. elaborately-carved oak frame armchairs—690 guineas (Lenygon); and portraits of Queen Elizabeth, half length, on panel, by Zucchero—275*l*. (Sims); Sir James Scudamore in armour, with charger, etc.—650*l*. (Rigby); Lady Jane Brydges, daughter and co-heiress of Lord Carnarvon, by Allan Ramsay—600*l*. (Rigby); and her sister, Lady Catherine Stanhope, by Frances Hayman—430*l*. (Lee).

THE BUILDING OF HOLYROOD ABBEY CHURCH.

A paper on "The Building of Holyrood Abbey Church, as Evidenced by the Existing Remains," was read by Mr. John Watson, F.R.I.B.A., before the members of the Edinburgh Photographic Society on the 2nd inst. Treating of the architectural features of the Abbey compared with those of other famous churches, the lecturer pointed out that when the building was contemplated the prevailing style of architecture was that of the Norman Romanesque. By that time the component parts of the church had attained to perfect clearness in arrangement and expression of form. The great churches of the first class were usually planned on the Latin Basilican type, with transepts, while those of what might be called the second class were built on the parish church plan, consisting of a nave, chancel, and apse, with or without aisles or transepts. The former type of plan passed from France through England to Scotland, and was particularly associated with buildings of the Benedictines. Durham Cathedral was an early and important instance, and in the north of England its plan formed the type of a distinct school, whose influence spread to Scotland. There seemed to be little doubt that the plans of both Dunfermline Abbey and Kirkwall Cathedral were directly inspired from that source, and from the similarity it might be assumed that Holyrood as well was a near descendant. In dealing with the existing remains, the lecturer traced the history of its foundation in King David's time to the present condition, assuming that building operations began under the first charter granted in 1128. There had been at least five distinct periods of erection—(1) The original choir, represented by the Norman doorway in the south aisle; (2) the transitional work of the north aisle and lower part of west front, followed by the very early first pointed work, corresponding to the Early English; (3) the arcades on the north tower, the upper parts of the west front, the triforia, and later the clearstory and vaulting; (4) the north transept; and (5) the south transept. The church, they might assume, would take about 250 years to complete in all its essential parts. In another generation others were called in to erect those sturdy buttresses, possessing such a Scottish flavour, which they saw on the north and south sides of the church. They were erected by Abbot Archibald Crauford early in the second half of the XVth century. Towards the close of Charles II.'s reign it appeared that the Abbey was Government property, and in 1672 the nave was

reconstituted as the Chapel Royal of Holyrood House for the use of the Royal Family. In 1758 the attention of the Government was called to its condition, and the builder called in loaded the vault with a dead weight it was never intended to carry. That was done with disastrous results. The type of vaulting ceiling in the nave of the Abbey Church was the determining factor in the design of the west front, shown by the disposition of the two great windows occupying the greater part of the gable.

SURVEYORS' INSTITUTION UNIVERSITY SCHOLARSHIPS.

The Council have under their consideration the adoption of new rules which will involve a modification of their existing scholarship scheme. It is proposed that the course of study shall be extended so as to comprise, besides agriculture, to which it is now limited, any approved subjects which relate to branches of the surveying profession, and to dispense with the restriction by which the six 50*l.* a year scholarships are held at only Bangor College and Armstrong College in Durham University, where the Council find that the competition is not satisfactory in so far as the numbers of entrants is concerned. The Council have, it is stated, obtained the co-operation of practically all Universities in the United Kingdom to an arrangement whereby one scholarship of 60*l.* per annum—to be called the Penfold Scholarship, in memory of the late Mr. J. W. Penfold—and five of 50*l.* per annum, will be tenable for three years at any University chosen by the successful candidates. The Council founded four years ago, on behalf of students of the Institution, three 80*l.* scholarships tenable at Cambridge, and six of 50*l.* tenable at Durham and Bangor. The first examination for the newly-founded three 80*l.* scholarships tenable at Oxford will be held in July.

THE "PREMIER" HAND-POWER MORTISING MACHINE.

A new form of "Premier" mortising machine recently patented by Messrs. F. W. Reynolds & Co. is illustrated on this page. This neatly-designed tool embodies several novel features which should appeal to those engaged in the various wood-working industries. In place of the customary hand wheel and screw, a patented pressure cramp is fitted for gripping timber, in sizes up to 8 in. wide by 15 in. deep. Folding brackets and rollers on each side of the machine, as shown in the illustration, are provided for the support of long pieces of timber, and make it unnecessary for the operator to move from the front of the machine to adjust the work. These brackets are fitted so that when not in use they can be folded up beneath the table. The height of the chisel can be adjusted instantly by means of the handle at the left-hand side of the head. This being done, the machine is ready for work. When not in use the hand lever can be kept in the vertical position, where it takes up no floor space, and it should be noted that the same lever can always be set in the most convenient position for the operator. An adjustable stop is provided by means of which the depth of the mortice can be regulated at will. The chisel box is fitted with a novel device for removal of the chisel, and with a simple and effective arrangement for reversing the chisel. This mortising machine is supplied with a complete set of chisels, either of the ordinary or the self-coring type, and can be fitted with boring apparatus if desired at a small additional cost.

ROYAL SOCIETY OF PAINTER ETCHERS AND ENGRAVERS.

At the last meeting of the Council Mr. Nelson Dawson was elected an Associate of the Society.

GOVERNMENT OFFICES, PRETORIA.

Mr. Herbert Baker has been chosen as the architect of the buildings which will be erected at Meintjes Kop, near Pretoria, on the hills where, at Bryntirion, are Government House and the official residences of ministers and judges. Mr. Baker's proposed plans provide for two blocks of buildings on either side of a narrow gorge, which descends through the ridge of the plateau on the hillside, and for connecting the two blocks by means of a rounded colonnade, which will encompass the existing natural amphitheatre or hollow at the rear. The inclines and slopes along the inner face of the ridge will, it is anticipated, be laid out as public gardens, with terraces, whilst the amphitheatre could be adapted for purposes of assembly upon occasions of municipal or national concourse. The configuration of the land presents many advantages for the project, which appears to embrace the formation of an acropolis to stand at a distance of about a mile upon the elevated ground which rises around the capital of the Transvaal Union.

PROPOSED STREET PAVING WORKS, NOTTINGHAM.

On behalf of the Local Government Board Mr. R. H. Bicknell, M.Inst.C.E., held an inquiry recently into an application by the Nottingham City Council to borrow 25,000*l.* for works of street paving. It was explained that there were a considerable number of streets in the city which had been falling into disrepair for some time. They badly needed repaving, but it would be impossible to do the work out of revenue account. Mr. Arthur Brown, the City Engineer, produced plans and details to the Inspector.

PROPOSED IMPROVEMENT TO THE PROMENADE, BLACKPOOL.

A scheme for the linking-up Blackpool's two promenades between the North Pier and the three Claremont Marine-parades is being considered by the Town Council. The Borough Surveyor, Mr. J. S. Brodie, is the author of the scheme. It provides for an upper walk and a lower walk. The higher walk will have a width of 95 ft., and the lower one 30 ft. The estimated cost of the extension is 38,818*l.*

ARCHITECTS' TECHNICAL BUREAU.

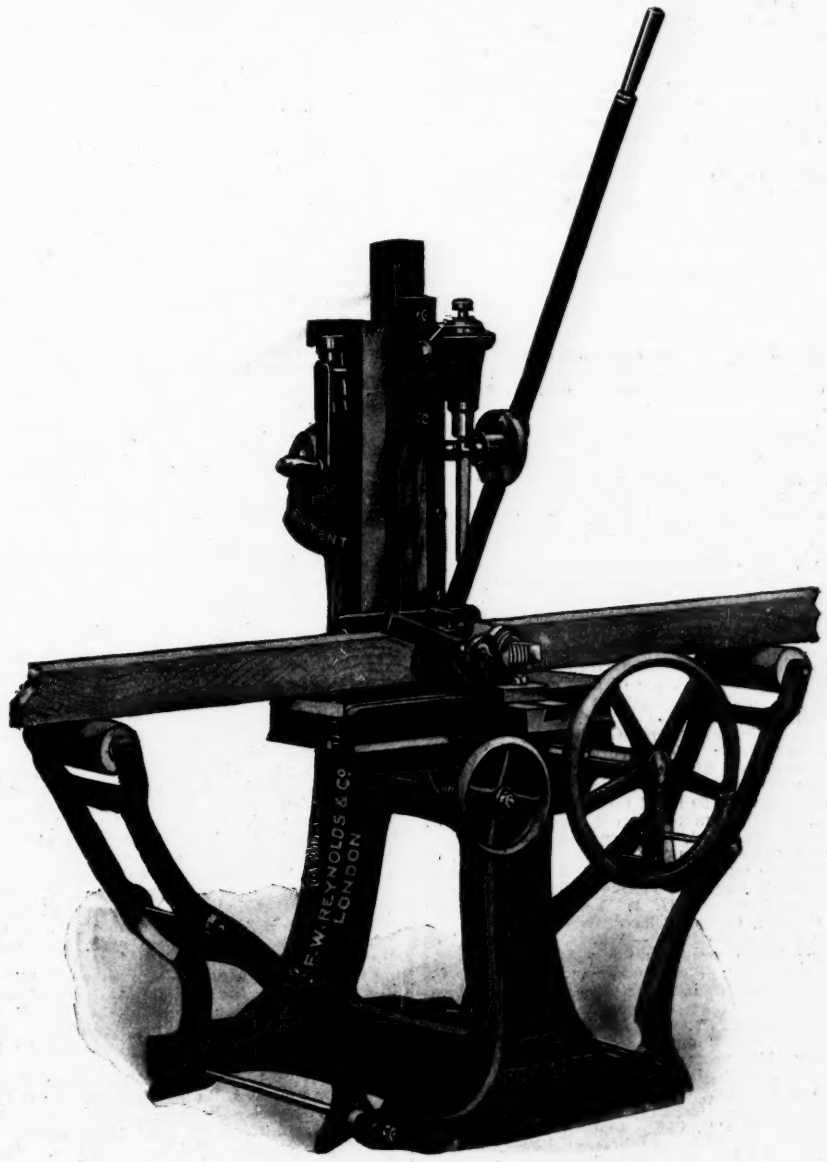
A conference of architects and manufacturers will be held at Bloomsbury Hall, 24 and 25, Hart-street, Bloomsbury, W.C., on Wednesday, February 23. Subject: "Standardisation of Trade Catalogues." Admission will be by ticket only, which can be had on application to the Secretary, Architects' Technical Bureau, 24 and 25, Hart-street, Bloomsbury, W.C. The Chairman will be Mr. A. W. S. Cross, M.A., Vice-President Royal Institute of British Architects, and the conference will be at 8 p.m.

THE ROMAN WALL OF YORK.

A section of the left wall has now been discovered *in situ*, and in fine preservation. On the remains of the old Roman wall was superimposed an earthen bank on which the mediæval wall was constructed. There is evidence, too, that the foot of the old Roman wall was, in places, covered with puddled clay. The present level of the city is some feet higher than that of the Roman period, and in digging a wide trench from St. Leonard's into the yard, a thick section of stiff clay several feet deep was cut through in the street before the workmen came to the face of the Roman work. Immediately inside the yard, however, and only covered by about 2 ft. of earth, the excavators reached the top of the wall, which descended about 6½ ft., and was then found to be resting on small piles, driven into the soil to form a foundation. The section is some 5½ ft. in width, and possesses all the characteristics of Roman masonry. The stones at the two sides, back, and front are faced, and the course is carried right through, with tooled pieces of masonry, strongly held together by mortar of great tenacity. So strong, indeed, was the cohesion of the binding material that considerable difficulty was experienced in disintegrating the stones, all of which are comparatively small. The subsoil on which the city of York is built is moist and rather friable, largely in the nature of warp, indicating alluvial deposit, and obviously for this reason the wall rests on piles. These are sharply pointed, about 2½ ft. long, and 4 in. to 5 in. square at the top. They are placed in close formation, being about 6 in. from centre to centre, and are made of either oak or chestnut. Those which have been removed in the process of the excavation are in a splendid state of preservation, and in no wise decayed. —*Yorkshire Post.*

LAUNDRY MACHINERY.

With a view of demonstrating the advance that has been made in the machinery of the laundry and in the equipment of public baths and other institutions, the Society of Laundry Engineers is organising an exhibition at the Royal Agricultural Hall, London, in April next. This display of laundry machinery and sanitary appliances will include machinery in motion, practical work in progress, demonstrations of new processes, and other departments that should impress the public and educate the laundryman. Conferences on methods of work will also be held.



The "Premier" Hand-power Mortising Machine.

List of Competitions, Contracts, etc.

For some Contracts still open, but not included in this List, see previous issues. Those with an asterisk (*) are advertised in this Number: Competitions, iv.; Contracts, iv. vi. viii. x.; Public Appointments, xv*a*.; Auction Sales, xxii.

Certain conditions, beyond those given in the following information, are imposed in some cases, such as: the advertisers do not bind themselves to accept the lowest or any tender; that a fair wages clause shall be observed; that no allowance will be made for tenders; and that deposits are returned on receipt of a bonâ-fide tender unless stated to the contrary.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

***** It must be understood that the following paragraphs are printed as news, and not as advertisements; and that while every endeavour is made to ensure accuracy, we cannot be responsible for errors that *may* occur.**

Competitions.

JANUARY 1-MARCH 1. — **Leeds.** — PREMISES. — The Directors of the Leeds Industrial Co-operative Society, Ltd., invite architects to submit competitive drawings and estimates for new business premises and offices, to be erected on the site of the old "Mercury" office, Albion-street, Leeds. Premiums of 100*l*., 50*l*., and 25*l*. respectively are offered, and will be awarded to the authors of the designs and plans placed first, second, and third by the assessor appointed by the directors. Conditions of competition, etc., will be forwarded on application to the Secretary, on receipt of stamped addressed foolscap envelope, accompanied with a deposit of 2*l*. 2*s*.

FEBRUARY 10-MARCH 31. — **Sheffield.** — CHURCH. — Plans desired for church for 650, institute for 150, primary department for 125, junior department for ninety-five, and caretaker's apartments, Endcliffe Park. Premium, not merged in commission, 35*l*. Assessor, Mr. Chas. Hadfield, F.R.I.B.A. Questions until Febuary 10. On receipt of 5*s*. the Secretary will furnish conditions and instructions, with plan of site. Deposit returned only to those who send plans. Secretary, Mr. J. W. Nicholls, 64, Everton-road, Brocco Bank, Sheffield.

MARCH 12. — **Blyth.** — SECONDARY SCHOOL. — The Governors of the Blyth Secondary School (acting for the Blyth U.D.C.) invite architects whose offices are situate in the counties of Northumberland, Durham, and Newcastle-upon-Tyne to submit plans in competition for a new secondary school and caretaker's house, to be erected at Blyth. The school is to accommodate 280 pupils. The competition will be conducted in accordance with the regulations of the Royal Institute of British Architects. The assessor appointed is Mr. J. A. Gotch, F.R.I.B.A., F.S.A. Copies of the conditions and of the plan of site may be obtained from Mr. Thos. R. Guthrie, Clerk to the Governors.

MAY 31. — **Karachi.** — MUNICIPAL OFFICE. — The Municipality of Karachi invite elevation designs and detailed plans and estimates for a new Municipal Office. For further particulars see advertisement in our issue of December 25.

Contracts.

BUILDING.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

FEBRUARY 21. — **Leeds.**—DEMOLITION, ETC.—Tenders are invited by the Parks Committee for the demolition of three houses, building gable, and boundary wall, levelling and asphalting an open space, and providing and fixing railings round same in Blackman-lane, Leeds. Forms of tender, etc., can be obtained at the office of Mr. W. T. Lancashire, City Engineer, Municipal Buildings.

FEBRUARY 21. — **Middlesbrough.**—ALTERATIONS.—Various works required in making alterations to No. 59½, Linthorpe-road, Middlesbrough. Particulars at offices of Messrs. Moore & Archibald, architects, 27, Albert-road, Middlesbrough.

FEBRUARY 21-MARCH 5. — **Normanton.** — SCHOOL.—The Governors of Normanton Grammar School invite tenders for the erection of new girls' school at Normanton. Plans, etc., may be seen, and quantities obtained, at the office of Mr. Arthur Hartley, architect, County-chambers, Castleford. Names to the architect on or before February 21.

FEBRUARY 21. — **Stockton.** — CHIMNEY. — The Guardians of the Stockton Union invite tenders for the heightening by 20 ft. of the Workhouse laundry chimney. Particulars to be obtained from Mr. J. Rodham, Finkle-street, Stockton.

FEBRUARY 21.—**Woking.**—COTTAGE.—The U.D.C. of Woking invite tenders for the erection of a cottage in South-road, Horsell, Woking. Plans, etc., may be obtained from Mr. G. J. Wooldridge, Surveyor to the Council, Council Offices, Woking.

FEBRUARY 22. — **Belfast.** — WORKS.—The Board of Guardians invite proposals for works:—(1) Dining hall, workroom, and dormitories; and (2) dormitories for infirm inmates, in accordance with the plans, etc., by Messrs. Young & Mackenzie, architects and engineers, Belfast. Copy of schedule of quantities and forms of tender can be had on payment of 10*s*. (not returnable) from Messrs. W. H. Stephens & Sons, surveyors, 13, Donegall-square North.

FEBRUARY 22.—**Landrake.**—ALTERATIONS, ETC., TO FARM BUILDINGS.—The Small Holdings Committee of the Cornwall C.C. invite tenders for alterations and additions to farm buildings at Lowertown, in the Parish of Landrake. For plans, etc., apply to the County Land Agent, Public Rooms, Truro.

FEBRUARY 22.—**Linthwaite.**—HOUSES.—Works required in the erection of twelve dwelling-houses, Manchester-road, Linthwaite. Plans may be seen, and quantities obtained, at offices of Messrs. Lunn & Kaye, architects, Milnsbridge.

FEBRUARY 22.—**Richmond (Yorks).**—STONEWORK.—Tenders are being invited for taking down and refixing certain stonework, together with certain pointing and other works, at the tower situated over the bellman's house. Specification may be seen, and particulars, etc., may be obtained, upon application to Mr. T. H. Hailstone, Borough Surveyor.

FEBRUARY 22-MARCH 12. — **Shrewsbury.**—SCHOOLS.—The Salop Education Committee invite tenders for the erection of new secondary schools to accommodate 350 pupils, at Shrewsbury. Plans, etc., prepared by Mr. Frank H. Shayler, F.R.I.B.A., and Mr. James A. Swan, joint architects, may be inspected at their offices, 16, Pride-hill, Shrewsbury. For quantities, send name to the architects, accompanied by a deposit of 3*l*. 3*s*.

FEBRUARY 22. — **Spittal.** — COTTAGES. — Great Western Railway Directors invite tenders for the erection of two cottages at Spittal, near Clarbeston Road, Pembrokeshire. Plans, etc., may be seen, and forms of tender obtained, at the office of the Engineer at Neath Station.

FEBRUARY 22. — **Syresham (Northants).**—CLASSROOM.—For a new classroom and minor alterations at Syresham School. Names to the architects, Messrs. Law & Harris, 1, Sheep-street, Northampton.

FEBRUARY 22. — **Winsford.** — WALL. — Winsford U.D.C. invite tenders for the erection of a retaining wall and other works at their Gasworks. Plans, etc., may be inspected at the office of the Gasworks Manager, Weaver-street, Winsford.

FEBRUARY 23. — **Cockerham.** — REBUILDING OF COCKERHAM CHURCH.—Plans, etc., at the church and at the office of the architects, Messrs. Austin & Paley, Lancaster. Bill of quantities may be obtained from Messrs. Wright & Son, surveyors, Lancaster.

FEBRUARY 23.—**Cooline.**—RESIDENCE.—Erection of a residence at Cooline, near Charleville, according to plans, etc., which may be seen at the offices of Messrs. W. H. Hill & Son, 28, South-mall, Cork, and also with Mr. James Murphy, Cooline.

FEBRUARY 23.—**Crosland Moor.**—PATTERN WORKS.—Erection of new pattern works for Messrs. David Brown & Sons, Ltd., Park Gear Works, Crosland Moor. Plans may be seen, and bills of quantities obtained at office of Mr. J. Berry, architect and surveyor, 3, Market-place, Huddersfield.

FEBRUARY 23. — **Dawdon.** — CHURCH. — The first portion of a new church at Dawdon, Seaham Harbour. Plans, etc., at the Londonderry Offices (Architect Department), Seaham Harbour. Quantities may be obtained on promise to tender from Mr. W. Morton, quantity surveyor, 45, John-street, Sunderland.

FEBRUARY 23. — **Gravesend.** — REPAIRS, ETC.—Strood R.D.C. invite tenders for works at Isolation Hospital, Whitehill-road, near Gravesend. Specification, etc., on application to the Matron at the Hospital, or at the office of the District Surveyor, Mr. L. Randerson, of Meopham, from whom forms of tender may be obtained.

FEBRUARY 23. — **Grimsby.** — SCHOOL WORKS.—The Education Authority invite provisional tenders for works at the new Council School, Strand-street, Grimsby. Plans may be seen, and copies of the specifications obtained, at the offices of Mr. Herbert C. Scaping, architect, Court-chambers, Grimsby.

FEBRUARY 24. — **Darlington.** — CORRUGATED IRON BUILDING.—The Darlington T.C. invite tenders for the erection of a corrugated iron building at the Corporation-road Schools. Plans, etc., may be seen, and bill of quantities, etc., obtained, at the offices of Mr. George Winter, Borough Surveyor, Town Hall, on depositing a cheque for 2*l*. 2*s*.

FEBRUARY 24. — **Huddersfield.** — HOUSE, ETC.—Works (except plasterers' and painters') required in the erection of a dwelling-house and shop in Wheathouse-road, Birkby, Huddersfield. Plans may be seen, and quantities obtained, at office of Mr. Arthur Shaw, architect, Golcar.

FEBRUARY 24.—**Lindley.**—WAREHOUSE.—Erection of a two-story warehouse for Messrs. F. Peckett & Sons, Ltd., Portland Mills, Lindley. Plans may be seen, and bills of quantities obtained, at office of Mr. J. Berry, architect, surveyor, and valuer, 3, Market-place, Huddersfield.

FEBRUARY 24.—**Mohill.**—COTTAGES.—Mohill R.D.C. invite tenders for building labourers' cottages. (Mr. Edward Geelan, Clerk of the Council, Council Offices, Board-room, Mohill Workhouse, Ireland.) Copies of plan and specification can be had on payment of 5*s*.

FEBRUARY 24. — **Shrewsbury.** — SHOP PREMISES.—New shop premises, Whitehall-street, for the Shrewsbury Co-operative Society. Shrewsbury builders only are requested to send their names to Mr. Walter Richards, F.S.I., architect, Cross-hill, Shrewsbury, from whom quantities may be obtained on deposit of 1*l*. 1*s*.

FEBRUARY 25. — **Langley Park.** — COTTAGES.—The Consett Iron Company, Ltd., invite tenders for the erection of thirty-two cottages in Durham-street, Langley Park, co. Durham. Plans, etc., may be seen, and quantities obtained, upon application to the company's architect (Mr. Chas. E. Oliver), at their general offices, Consett.

FEBRUARY 25. — **Walberswick.**—CHAPEL.—Erection of a Primitive Methodist Church at Walberswick. Plans, etc., on application to Mr. A. F. Scott, architect, 24, Castle-meadow, Norwich, or Mr. N. R. Etheridge, Blythburgh Lodge.

FEBRUARY 25. — **Wellington.**—BATHS.—Wellington (Salop) U.D.C. invite tenders for the erection of Public Baths:—Contract No. 1.—For erecting the Baths. Contract No. 2.—For heating and warming. Plans can be seen (on production of specification and quantities) on application to Mr. Geo. Riley, Surveyor to the Council, 14, Walker-street, Wellington, Salop. Specification, etc., can be obtained from Mr. J. W. Littlewood, Clerk to the Council, Bank-chambers, Wellington, Salop, on deposit of 2*l*. 2*s*.

FEBRUARY 26.—**Grasmere.**—VILLAS.—Erection of a pair of semi-detached villas at Grasmere. Plans, etc., can be seen, and bills of quantities obtained, on application at office of Mr. Stephen Shaw, F.R.I.B.A., architect, Kendal.

FEBRUARY 26.—**Macclesfield.**—ST. PETER'S CHURCH TOWER.—Tenders for the completion of the above. Plans and specifications to be obtained from Mr. Jabez Wright, 27, King Edward-street, Macclesfield.

FEBRUARY 26.—**Skipsea.**—CHAPEL.—Erection of a Wesleyan Chapel at Skipsea, for the Trustees. Plans, etc., may be seen at the office of Mr. Samuel Dyer, architect, 29, Quay-road, Bridlington, or on application to Mr. Joseph Houghton, at Skipsea.

FEBRUARY 26. — **Tipperary.** — HOUSES.—Building and completing two dwelling-houses at Tipperary on the estate of the Right Hon. Lord Barrymore. Plans, etc., by Messrs. W. H. Hill & Son, architects, 28, South-mall, Cork.

FEBRUARY 26. — **Tondu (Wales).** — HOUSES. — Mr. Thomas Rees, Hillside, Tondu, invites tenders for two dwelling-houses at Tondu. Plans, etc., can be seen, and condition of tender obtained, on application to Mr. Jesse Hurley, architect, 10, Bridgend-road, Aberkenfig.

FEBRUARY 27.—**Abercwmboi.**—HOUSES. — Building of forty-two houses at Abercwmboi, near Aberdare, for the Abercwmboi Building Club. Plans, etc., can be seen at the office of Mr. Alec. S. Cameron, architect, 1, Glanant-street, Aberdare.

FEBRUARY 28. — **Belfast.** — SCHOOLS.—Erection and completion of Rosario Male and Female National Schools, Ballynafeigh, Belfast, for the Very Rev. R. Crickard, P.P., V.F. Bills of quantities have been prepared by Messrs. W. H. Stephens & Sons, Donegall-square North, and can be obtained from them on deposit of 1*l*. 1*s*.

FEBRUARY 28.—**Keady, etc., Ireland.**—BUILDINGS.—The Directors of the Great Northern Railway Company (Ireland) invite tenders for station building at Creaghanroe, near Castleblayney; goods office at Keady; goods shed at Smithboro'. Plans, etc., at the office of Mr. F. A. Campion, Chief Engineer, Amiens-street Terminus, Dublin, or copies at the office of the District Engineer, Belfast. Forms of tender on payment of 1*s*. each (not returnable).

FEBRUARY 28. — **Mirfield.** — HOUSES.—Erection of four dwelling-houses, Coppinhall-road, Mirfield. Plans may be seen, and quantities obtained, at offices of Messrs. Ainley & Hirst, architects, surveyors, and valuers, Slaithwaite, near Huddersfield.

FEBRUARY 28.—**North Curry.**—ALTERATIONS, ETC.—Alterations and extension to house and shop premises at North Curry for Mr. C. S. Gillard, at whose house copies of the plans and specifications may be seen, also at the offices of the *Somerset County Herald*, The Bridge, Taunton.

FEBRUARY 28. — **Unsworth.**—HOUSES.—Whitefield and Unsworth Co-operative Society, Ltd. (273, Bury New-road, Whitefield, near Manchester) invite tenders for twenty houses proposed to be elected in Parr-lane, Unsworth. Plans, etc., may be seen at above address.

MARCH 1.—**Bere Island.**—ALTERATIONS, ETC.—The Board of Public Works invite tenders for additions and alterations to the War Signal Station at Bere Island, Co. Cork. The plan, etc., can be seen at Castletown Royal Irish Constabulary Barracks, where printed forms of tender can be had.

MARCH 1.—**Colwyn Bay.**—TEMPORARY PAVILION.—The Executive Committee of the Royal National Eisteddfod of Wales, Colwyn Bay, invite tenders for the erection of a temporary pavilion for the purposes of the Eisteddfod. Names and addresses to Messrs. Darbyshire & Smith, architects, 17, Brazennose-street, Manchester.

* MARCH 1.—**London, W.**—DRAINAGE WORK.—The Guardians of Paddington invite tenders for drainage work at their Workhouse, 5, Woodfield-road, Harrow-road, W. See advertisement in this issue for further particulars.

BUILDING—*continued.*

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders may be sent in.

MARCH 2.—**Kingstown.**—BATHING BOXES.—Kingstown U.D.C. invite tenders for the construction of additional bathing boxes at the Royal Victoria Baths, Kingstown, in accordance with plans, which can be examined in the Town Surveyor's Office, Town Hall, Kingstown.

MARCH 2. — **Lucan.** — SHOP, ETC. — Lucan and District Co-operative Society, Ltd., invite tenders for building new shop and offices. Plans, etc., to be seen at the society's premises, No. 3, The Mall, Lucan.

MARCH 2.—**New Sarum.**—ALTERATIONS.—The T.C. invite tenders for carrying out certain structural alterations at the Municipal Offices, Endless-street. Plan, etc., can be seen, and bill of quantities, etc., obtained, on application to Mr. W. J. Goodwin, A.M.Inst.C.E., City Engineer and Surveyor, Municipal Offices, Salisbury.

* MARCH 3.—**Chipping Barnet.**—MANUAL INSTRUCTION, ETC., CENTRE. — The Hertfordshire C.C. Education Committee invite tenders for a new manual instruction and cookery centre at Byng-road, Chipping Barnet. See advertisement in this issue for further particulars.

MARCH 3. — **Pendleton.** — ALTERATIONS. — The Guardians invite tenders for certain structural alterations at the Union Infirmary, Hope, Pendleton. Copies of specification, etc., may be obtained from Mr. H. Lord, F.R.I.B.A., 42, Deansgate, Manchester, on payment of a deposit of 2*l.*

MARCH 4.—**Naas.**—COTTAGES.—Naas No. 2 R.D.C. invite tenders for building eight labourers' cottages. Plan, etc., to be seen at the office of Mr. D. J. Purcell, Clerk of Council, where forms of tender, etc., can be also obtained.

MARCH 4.—**South Elmsall.**—SCHOOL.—The West Riding Education Committee invite tenders for new infants' school, South Elmsall, and new school, Broughton-road, Skipton. Plans may be seen, and specifications, etc., obtained, on application to the Education Architect, County Hall, Wakefield. A sum of 1*l.* must be sent by separate letter to the West Riding Treasurer, County Hall, Wakefield.

MARCH 5.—**Diss.**—STABLES, ETC.—The U.D.C. of Diss invite tenders for the erection of new stables, with fire-engine house and harness house, in the Council's yard in Chapel-street. The plans may be seen, and specifications obtained, on payment of 5*s.* Mr. Alfred Cooper, Surveyor, The Terrace, Diss.

MARCH 5.—**New Ross.**—WORKHOUSE WORKS.—New Ross Guardians invite tenders for proposed works of sanitation and alteration to Workhouse:—(1) Drainage and water supply; (2) erection and completion of sanitary annexes, etc.; (3) plumbing and hot-water circulation; (4) erection of a new kitchen and annexe at the Fever Hospital. Plans, etc., may be seen at the Board-room, New Ross, and at the office of the architect, Mr. J. A. Ryan, 33, Catherine-street, Waterford.

MARCH 5.—**Sale.**—SCHOOL.—Tenders are required for new County High School for Girls at Sale. Plans, etc., can be seen at the office of Mr. H. Beswick, F.R.I.B.A., County Architect, Newgate-street, Chester, and quantities obtained on deposit of 2*l.*

* MARCH 5.—**Tottenham.**—SCHOOL.—The Tottenham Education Committee invite tenders for a school on the Down-lane site. See advertisement in this issue for further particulars.

* MARCH 7.—**Lichfield.**—SOLDIERS' QUARTERS.—The Secretary of State for War invites tenders for erection of sixteen B. married soldiers' quarters, Whittington Heath Barracks, Lichfield. See advertisement in this issue for further particulars.

MARCH 9.—**Leeds.**—DEMOLITION, ETC.—Tenders are invited by the Development Committee of the Corporation of Leeds for the purchase and demolition of the structures of buildings between Sykes-place and Lady Beck. The plan, etc., may be seen, and forms of tender, etc., may be obtained, at the office of Mr. W. T. Lancashire, City Engineer, Municipal Buildings.

* MARCH 12.—**Cholsey (Berks).**—SCHOOL ENLARGEMENT.—The Berkshire Education Committee invite tenders for enlargement of Council School at Cholsey (Berks). See advertisement in this issue for further particulars.

* MARCH 12.—**Shrewsbury.**—SCHOOLS.—The Salop Education Committee invite tenders for new secondary schools at Shrewsbury. See advertisement in this issue for further particulars.

MARCH 14. — **Mexborough.** — ALMSHOUSES. — The U.D.C. invite tenders for the erection of six almshouses and other works at Church-street, Mexborough. Plans may be seen, and a copy of the particulars, etc., obtained, at the Council Offices on a deposit of 1*l.*

* MARCH 21.—**St. Helens.**—SCHOOL.—The County Borough of St. Helens Education Committee invite tenders for a new school in North-road, St. Helens. See advertisement in this issue for further particulars.

* MARCH 21.—**Seaforth.**—SCHOOL.—The Waterloo-with-Seaforth U.D.C. invite tenders for a secondary and technical school in Cambridge-road, Seaforth. See advertisement in this issue for further particulars.

NO DATE. — **Blackrod.** — REPAIRING COTTAGES.—Repairing five cottages in Blackrod. For particulars apply to Mr. John Volcey, 326, Manchester-road, Blackrod.

* NO DATE.—**Boston.**—CHURCH.—The Trustees invite tenders for new Wesleyan church, Boston. See advertisement in this issue for further particulars.

NO DATE.—**Castlerahan.**—COTTAGES.—The R.D.C. invite tenders for the erection of single and double labourers' cottages throughout the district in accordance with the plans, etc., prepared by Mr. Michael Grace, jun., Council's Engineer. Tender forms, etc., can be had on application to the Clerk or Engineer. Copies of plans and specification can be had on payment of a sum of 5*s.* for each copy. Mr. Peter Brady, Clerk of Council, D.C. Offices, Oldcastle Workhouse.

NO DATE. — **Exeter.** — SCHOOL ADDITIONS. — Exeter Education Committee invite tenders for various alterations and additions at the old school for boys, Cowick-street, Exeter, particulars of which may be obtained of the architect, Mr. James Jerman, F.R.I.B.A., 1, Bedford-circus, Exeter.

NO DATE. — **Hawarden.** — GASHOLDER TANK.—Hawarden Gas and Coke Company, Ltd., invite tenders for the construction of a brick and stone gasholder tank, 45 ft. in diameter and 15 ft. 6 in. in depth. Plans, etc., can be seen at the office of the company, and copies may be had on payment of 1*l.* 1*s.*

NO DATE. — **Pontardawe.** — ROLLER RINK.—The erection of new American roller rink, Pontardawe. Plans, etc., may be seen at offices of Messrs. C. S. Thomas, Meager, & Jones, architects, Salisbury-chambers, Wind-street, Swansea, or upon application to Mr. L. W. Francis, 12, High-street, Pontardawe.

NO DATE. — **Sandtoft.**—COTTAGES.—Hatfield Chase Corporation invite tenders for building two cottages at Sandtoft, near Belton. Plans, etc., may be seen on application to Mr. Wm. Hoodless, Epworth, *vid* Doncaster.

NO DATE.—**Ston Easton.**—COTTAGES.—Erection of two or more blocks of cottages at Old Down, Ston Easton, near Bath, for Mr. J. Henry Iles. Names to Mr. William F. Bird, M.S.A., architect, Midsomer Norton, Somerset, and bills of quantities, with forms of tender, may be obtained on application.

ENGINEERING, IRON, AND STEEL.

FEBRUARY 21. — **Poole.**—HEATING.—The Education Committee invite tenders for providing and fixing heating apparatus at the elementary school now being erected at Courthill-road. Particulars may be obtained, and plans seen, on application at office of Mr. Samuel J. Newman, F.R.I.B.A., Borough Surveyor, Market-street, Poole.

FEBRUARY 21. — **Rotherham.** — RETORT REPAIRS.—Rawmarsh U.D.C. invite tenders for beds for resetting five settings of retorts and Brookes' patent regenerator furnaces at the Council's Gasworks, Parkgate, Rotherham. Particulars can be obtained on application to Mr. E. O. Watson, Gas Manager at the Gasworks.

FEBRUARY 24.—**Tynemouth.**—BOILER FEED PUMPS.—The Guardians invite tenders for the supply and fixing complete of two duplex feed pumps, etc. Further particulars and specification can be obtained by personal application to the Master of the Workhouse, Preston-road, North Shields.

FEBRUARY 28.—**Gillingham (Kent).**—TANK.—The B.C. invite tenders for the supply and delivery at their electricity works of a new or second-hand cylindrical iron tank suitable for the storage of crude oil. Capacity of tank, 4,500 gallons. Mr. F. C. Boucher, Town Clerk, Corporation Offices, Gardiner-street, Gillingham (Kent).

FEBRUARY 28.—**Rusholme, Manchester.**—ELECTRIC LIGHTING.—Tenders are invited for wiring and supply of incandescent lamps, fittings, etc., in connexion with Exhibition Buildings, Old Hall-lane, Rusholme, Manchester. Copies of the specification, etc., can be obtained from Mr. W. Davenport, Ridler-place, Holland-street, Blackfriars, London, S.E., upon payment of the sum of 1*l.*

FEBRUARY 28. — **Wimbledon.** — PIPEWORK, ETC.—The Corporation invite tenders for the supply and erection at their Electricity Works, Wimbledon, of pipework, valves, etc. Specification, etc., may be obtained on application to the Borough Electrical Engineer, Electricity Works, Durnsford-road, Wimbledon, and the general conditions may also be inspected at his office.

MARCH 1.—**Bootle.**—ELECTRIC LIGHT INSTALLATION.—The Corporation of Bootle invite tenders for electric light installation to the new girls' secondary schools. Specifications, etc., can be obtained from the Borough Electric Engineer's Office, Electric Light Station, Pine-grove, Bootle, where plans of the schools can be inspected.

MARCH 1.—**London.**—CRANES, ETC.—The Secretary of State for India in Council invites tenders for supply of (1) pillar water cranes; (2) bridgework. The conditions of contract may be obtained on application to the Director-General of Stores, India Office, Whitehall, S.W.

* MARCH 3.—**Greenwich.**—FIRE-ESCAPE STAIRCASES. —The Guardians of the Greenwich Union invite tenders for two iron fire-escape staircases at the Greenwich Infirmary. See advertisement in this issue for further particulars.

MARCH 7. — **Buckie.** — HARBOUR WORKS.—Tenders are invited by the Buckie T.C. for the construction of an extension of the Buckie (Cluny) Harbour and the improvement of the existing harbour. Contract drawings, etc., may be seen on application to Mr. John L. McNaughton, Town Clerk, 4, Cluny-square, Buckie, N.B., or at the office of the Engineer to the Council, Mr. W. T. Douglass, 15, Victoria-street, Westminster, S.W. Copies of the form of tender, etc., may be obtained on application to the Engineer upon payment of a deposit of 3*l.* 3*s.*

MARCH 7. — **London.** — RAILS, ETC. — The Agent-General for Victoria, Australia, invites tenders for the supply and delivery at one of the railway piers at Williamstown, Melbourne, of rails and (or) fish-plates. Specification, etc., may be obtained at the office of the Agent-General for Victoria, at Melbourne-place, Strand, London, W.C. A preliminary deposit of 500*l.* must accompany each tender.

MARCH 12. — **Merthyr Tydfil.** — FERRO-CONCRETE BRIDGE.—The Corporation invite tenders for the construction of a ferro-concrete public road bridge over the River Taff. A copy of the specification, etc., may be obtained from Mr. T. Fletcher Harvey, Borough Engineer, Town Hall, Merthyr Tydfil, upon payment of 2*l.* 2*s.*

APRIL 2. — **Transvaal.** — PLANT.—The Transvaal Government invite proposals for erection of local plant for the manufacture of steel from iron and steel scrap. Full particulars must be lodged both at office of Mr. H. Warington Smyth, Secretary for Mines, office of Minister of Mines, Pretoria, and at the office of the Agent-General for the Transvaal, 72, Victoria-street, London, S.W.

APRIL 14. — **Cairo.** — MAIN PUMPING MACHINERY.—The Ministry of Public Works of the Egyptian Government invites tenders for a sewage pumping plant. Conditions on application to Mr. A. L. Webb, C.M.G., Queen Anne's-chambers, Broadway, Westminster, London, S.W., or the Commercial Intelligence Branch of the Board of Trade, London.

MISCELLANEOUS.

FEBRUARY 21. — **Brackley.**—TEAM LABOUR.—Brackley R.D.C. invite tenders for carting road materials. Forms of tender, etc., may be obtained of the Surveyor to the Council, Mr. H. Pickering, Hemldon, Brackley.

FEBRUARY 23. — **Dublin.**—MANTLES, ETC.—The Corporation of Dublin invite tenders for the supply of mantles and 6-in. Jena chimneys for street lighting. Samples of at least six of each to be forwarded to the Town Clerk, City Hall, Dublin.

FEBRUARY 23. — **Litherland.** — LABOUR, ETC.—The U.D.C. of Litherland invite tenders for the supply of the necessary horses, carts, and drivers for the removal of the ashpit, offal, and shop refuse in the Council's District for a term of three years. Specification, etc., can be obtained on application to Mr. A. H. Carter, Surveyor, Public Offices, Sefton-road, Litherland, on payment of the sum of 10*s.* 6*d.*

FEBRUARY 23. — **Scalby.** — TEAM LABOUR.—Scalby U.D.C. invite tenders for the carting required by the Council. Particulars, etc., can be obtained from the Surveyor, Mr. James A. Iveson, 14, Dean-road, Scarborough.

FEBRUARY 24. — **Walsoken.**—STEAM ROLLING.—Two months' work in steam-rolling roads, for the U.D.C. of Walsoken. For particulars apply to Mr. Kerrindge, Surveyor, Norwich-road, Wisbech.

FEBRUARY 25. — **Felixstowe.**—METER WORK.—The Felixstowe and Walton U.D.C. invite tenders for fixing meters and for builders' work. Specifications, etc., may be obtained at the offices of the consulting engineer, Mr. Reginald P. Wilson, 66, Victoria-street, Westminster, S.W., on payment of a sum of 1*l.* 1*s.* per section.

FEBRUARY 26. — **Walton-le-Dale.**—SCAVENGING.—The Walton-le-Dale U.D.C. invite tenders for the cleansing of pails, cesspools, and ashpits, and the removal of nightsoil, etc., within their district for the year. The specification for the work may be inspected at the Council Offices, Bamber Bridge.

FEBRUARY 28. — **Hampton Wick.**—SCAVENGING.—The U.D.C. of Hampton Wick invite tenders for scavenging, etc., works. Mr. Harold Fawssett, Clerk to the Council, Council Offices, High-street, Hampton Wick.

MARCH 1.—**Cheam.**—SCAVENGING.—Cheam P.C. invite tenders for removal of house refuse and the emptying and cleaning of ashpits. Specification open for inspection at the office of the Council, the Parochial Rooms, Cheam.

MARCH 1. — **Epping.** — CARTING.—Epping R.D.C. invite tenders for carting gravel. Forms, etc., can be obtained from the Surveyor, Mr. Forrester, Thornwood, near Epping.

MARCH 2.—**Dublin.**—CABLES.—The Lighting Committee invite tenders for the supply of extra high pressure and low pressure cables. Specifications, etc., can be obtained from the City Electrical Engineer, Fleet-street, Dublin, on payment of 1*l.* 1*s.*

MARCH 2. — **Llandaff, etc.** — SCAVENGING, ETC.—Llandaff and Dinas Powis R.D.C. invite tenders for works to be performed during the year ending March 31. Specifications may be obtained from Mr. M. Warren, Clerk, Park House, 20, Park-place, Cardiff.

MARCH 3. — **Wallington.**—SCAVENGING.—The Wallington Parochial Committee invite tenders:—(1) For the weekly collection and removal of house and garden refuse; (2) for the supply of horses and carmen for street watering. Forms of tender, etc., may be obtained at the offices of the R.D.C., Katharine-street, Croydon.

MARCH 4. — **Weobley.** — HAULING, ETC.—Weobley R.D.C. invite tenders for hauling materials for the roads in their district. Forms, etc., can be obtained from the Surveyor, Mr. F. Gwillim, Weobley, S.O.

MARCH 7.—**Beverley.**—TEAM LABOUR.—East Riding C.C. Highways and Bridges Committee invite tenders for the carting of about 7,000 tons of stone. Conditions, forms of tender, etc., may be obtained on application to the County Surveyor or to the Road Foreman.

* MARCH 8.—**Bromley by Bow, E.**—PLASTERING. —The Poplar and Stepney Sick Asylum District Managers invite tenders for certain plastering work at the Sick Asylum, Devons-road, Bromley by Bow, E. See advertisement in this issue for further particulars.

* MARCH 8. — **Willesden.** — DUST REMOVAL.—The Willesden D.C. invite tenders for collection, removal, and disposal of house refuse. See advertisement in this issue for further particulars.

MARCH 9. — **Bingham.** — TEAM LABOUR.—Bingham R.D.C. invite tenders for team labour on the district roads. Forms of tender may be obtained on application to Mr. R. H. Beaumont, Clerk.

MARCH 16.—**Middlesex.**—CARTAGE, ETC.—Cartage of stone, chippings, and gravel. Particulars, etc., may be obtained at offices of Mr. H. T. Wakelam, M.Inst.C.E., County Engineer and Surveyor, Middlesex Guildhall, Westminster, S.W.

* NO DATE. — **Bangor.** — FURNISHING, ETC. — The North Wales Training College Committee invite tenders for furnishing and equipping certain college and hostel premises at Bangor. See advertisement in this issue for further particulars.

PAINTING, etc.

FEBRUARY 21. — **Maidstone.**—PAINTING.—Tenders are invited for the interior painting, decorating, etc., of the quarters of the Royal Army Medical Corps, at the Old Palace, Mill-street, Maidstone, particulars of which may be obtained at the office of the Borough Surveyor, Fair Meadow.

FEBRUARY 21. — **Nottingham.** — PAINTING.—The Public Parks Committee invite tenders for external painting—(1) Golf and cricket pavilions, Bulwell Forest; (2) cricket pavilion and tool shed, Meadows

PAINTING, etc.—*continued.*

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

Recreation Ground. Copies of the bill of quantities, etc., may be obtained from the office of the City Architect (Mr. Frank B. Lewis), Guildhall, on payment of a deposit of 1*l.* 1s. for each contract.

FEBRUARY 28.—**Bournemouth.**—PAINTING.—The Bournemouth T.C. invite tenders for painting the exterior of the refreshment-rooms near Bournemouth and Boscombe Piers. Full particulars, etc., can be obtained of Mr. F. W. Lacey, M.Inst.C.E., Borough Engineer and Surveyor, Municipal Offices, Bournemouth, provided that the sum of 1*l.* 1s. has been previously deposited.

✱ FEBRUARY 28.—**London, W.**—PAINTING, ETC.—The St. Marylebone Board of Guardians invite tenders for repairs, painting, distempering, whitewashing, etc., at their Infirmary, Rackham-street, Notting Hill, W. See advertisement in this issue for further particulars.

MARCH 1. — **Larbert.** — PAINTING.—The P.C. of Larbert invite tenders for painting and decorating the Dobbie Hall, Larbert. Specifications may be had from Mr. Alex. Smith, Clerk of the Parish Council, Larbert, on payment of a fee of 10s. sterling.

✱ MARCH 2.—**London.**—CLEANING, PAINTING, ETC.—The Metropolitan Asylums Board invite tenders for cleaning, painting, and repairing work at (1) the Park Fever Hospital, Lewisham, S.E.; (2) the Eastern Fever Hospital, Homerton, E. See advertisement in this issue for further particulars.

MARCH 2.—**Stafford.**—PAINTING, ETC.—The Corporation invite tenders for painting the exterior and portions of the interior of the Public Baths. The specification may be seen, and forms of tender obtained, on application to Mr. W. Plant, Borough Engineer and Surveyor, Borough Hall, Stafford.

MARCH 14. — **Belfast.** — PLUMBING.—The Belfast Asylum Committee invite tenders for internal plumbing work in connexion with the Purdysburn Villa Colony Asylum, No. 2 contract. Plans, etc., may be inspected at the office of the architects, Messrs. Watt, Tulloch, & Fitzsimons, 77A, Victoria-street, Belfast, and copy of the bill of quantities obtained, on application to the Quantity Surveyor, Mr. A. Ferguson, Scottish Provident-buildings, on payment of a deposit of 3*l.* 3s. to the City Chamberlain, City Hall.

ROADS, SANITARY, AND WATER WORKS.

FEBRUARY 19. — **Leeds.** — ROAD WORKS.—Leeds Guardians invite tenders for the excavating and remaking of a macadam roadway in the Workhouse grounds. Apply to Messrs. Thomas Winn & Sons, architects, 84, Albion-street, Leeds.

FEBRUARY 21.—**Andover.**—KERBING.—For works of kerbing, concrete channelling, gravelling, and rolling of road in Alexandra Park, for the Town Council, in accordance with the specification, which may be seen on application at the Surveyor's Office, Town Hall, Andover.

FEBRUARY 21.—**Banbury.**—MAKING-UP, ETC.—The T.C. invite tenders for the making-up, metalling, and paving of Gibbs'-road. Specification, etc., can be seen, and other information obtained, on application at office of Mr. N. H. Dawson, C.E., Borough Surveyor, Town Hall, Banbury.

FEBRUARY 22.—**Batley.**—PAVING, ETC.—The T.C. invite tenders for the levelling, paving, channelling, and completing of streets. Plans, etc., may be seen on application to the Borough Engineer and Surveyor, Mr. Oscar J. Kirby, at the Town Hall, Batley.

FEBRUARY 22. — **Caerphilly.** — STREET WORKS.—Caerphilly U.D.C. invite tenders for asphaltic tar paving, kerbing, channelling, sewering, forming, metalling, etc., Station-lane, Caerphilly. Plan, etc., may be seen, and form of tender obtained, at the Surveyor's Office, Cardiff-road, Caerphilly, upon depositing the sum of 1*l.* 1s.

FEBRUARY 22.—**Guiseley.**—SEWER.—The Guiseley U.D.C. invite tenders for the making of about 162 yds. of 12-in. stoneware pipe sewer. Plans, etc., may be seen, and bills of quantities, etc., obtained, on application to Mr. Joe Battye, Surveyor, Town Hall, Guiseley, on payment of 10s.

FEBRUARY 22.—**Kent.**—TAR PAVING.—Kent Education Committee invite tenders for the laying, when and where required, of Kentish rag tar paving at Council schools; also for carrying out any repairs to tar paving. Copy of specification, etc., will be sent on application to Mr. Fras. W. Crook, Secretary, Caxton House, Westminster, S.W., on payment of a deposit of 1*l.*

FEBRUARY 22.—**Leyton.**—MAKING-UP.—For making-up certain private streets for the U.D.C. Specification, etc., may be obtained on application to Mr. William Dawson, Surveyor, Town Hall, Leyton.

FEBRUARY 22.—**Salford.**—SEWERING.—Tenders are invited for certain sewering, paving, and flagging works. The plans may be seen, and forms of tender, etc., obtained, at the Borough Engineer's Office, Town Hall, Salford.

FEBRUARY 22.—**Sowerby Bridge.**—LABOUR.—The U.D.C. invite tenders for labour required in making-up Hollings Mill-lane (from No. 7 to 23 inclusive), Arnold-street, and Chester-street. Forms of tender, quantities, etc., may be obtained on application to Mr. George E. Wrigley, Engineer's Office, Sowerby Bridge.

FEBRUARY 23.—**Enfield.**—MAKING-UP.—The U.D.C. of Enfield invite tenders for making-up the private street known as Abbey-road (part of), Bush Hill Park. Plans, etc., can be seen, forms of tender, etc., obtained, on application to Mr. Richard Collins, the Council's Surveyor, at Public Offices, Enfield, Middlesex.

FEBRUARY 23. — **Hollingbourn.** — CULVERTS AT HAWKENBURY.—The R.D.C. invite tenders for the construction of two new culverts at Hawkenbury, in the Parish of Headcorn. Drawings, etc., can be seen on application at 33, Earl-street, Maidstone.

FEBRUARY 23.—**Hornsey.**—ROAD WORKS.—The T.C. invite tenders for sewering, levelling, paving, metalling, kerbing, channelling, and making good Leinster-road and the passageway at the rear of Nos. 35 to 41, High-road, Wood Green. Forms of tender, etc., can be obtained from Mr. E. J. Lovegrove, Borough Engineer and Surveyor, Municipal Offices, Highgate.

FEBRUARY 23. — **Rochdale.** — PAVING, ETC.—The Paving, etc., Committee invite tenders for the paving and sewering work required in Whitehall-street and Selby-street. Plans, etc., may be seen, and copies of the quantities, etc., may be obtained from the Borough Surveyor.

FEBRUARY 24. — **Glasgow.**—SEWERS.—The Corporation invite offers for the construction of pipe sewers, etc., in streets adjoining St. Rollox Bowling Green, Cumbernauld-road. Specifications, etc., may be had on application at the Office of Public Works, City-chambers, 64, Cochrane-street.

FEBRUARY 26. — **Alnwick.** — ROAD WORKS.—The R.D.C. invite tenders for (1) providing and breaking; (2) for leading and laying on of materials (in separate tenders) for the several sections of highways in the district. Forms of tender, etc., may be had on application to the District Surveyors.

FEBRUARY 26.—**Dorchester.**—MAKING-UP.—The T.C. invite tenders for carrying out the necessary works for making-up portions of Maud-road and Culliford-road. Plans, etc., may be seen at the office of Mr. Percival T. Harrison, A.M.Inst.C.E., the Borough Engineer, during office hours.

FEBRUARY 26.—**Dunfermline.**—SEWER.—300 yds. of 12-in. sewer in Townhill-road. Schedules may be obtained from Mr. W. R. Maxwell, C.E., Burgh Engineer, Corporation-buildings, Dunfermline.

FEBRUARY 28. — **Aylesbury.** — MAKING-UP.—Aylesbury U.D.C. invite tenders for the making-up of Manor-road, Vale-road, Tindal-road, Ascott-road, and Abbotts-road (Manor Park). Plans, etc., may be seen, and bill of quantities, etc., obtained, on application to Mr. Wm. Harold Taylor, Engineer and Surveyor, Town Hall, Aylesbury, upon payment of 2*l.* 2s.

FEBRUARY 28.—**Whitley.**—STREET WORKS.—Whitley and Monkseaton U.D.C. invite tenders for forming and completing streets. Plans, etc., may be seen, and bill of quantities, etc., obtained, on application at the office of Mr. A. J. Rousell, A.M.Inst.C.E., the Council's Surveyor, Council Offices, Whitley Bay.

✱ MARCH 1. — **Bromley.** — ROAD-MAKING. — The Bromley B.C. invite tenders for sewering, levelling, paving, metalling, channelling, and making good portions of Wendover and Langdon roads. See advertisement in this issue for further particulars.

MARCH 1. — **Ealing.** — PRIVATE STREET IMPROVEMENTS.—The T.C. invite tenders for the making-up of roads. The drawings, etc., may be seen, and forms of tender, etc., obtained from Mr. Charles Jones, M.Inst.C.E., Borough Engineer, Town Hall, Ealing, W., upon payment of a deposit of 10s. 6d. for each road (three).

MARCH 2.—**Bordon.**—KERBED AND CHANNELLED FOOTPATH.—Tenders are invited for kerbing, channelling, the formation of a footpath and surface drainage, on the Farnham and Petersfield main road at Bordon. Copies of plans, etc., can be obtained at the office of Mr. W. J. Taylor, County Surveyor, the Castle, Winchester. A deposit of 1*l.* 1s. will be required for each set of documents, made payable to the Hants C.C., and crossed Bank of England.

MARCH 2. — **Carshalton.**—MAKING-UP.—Carshalton U.D.C. invite tenders for making-up Ruskin-road and Cambridge-road. Bills of quantities, etc., can be obtained on application at office of the District Council, The Square, Carshalton, and on deposit of 1*l.*

MARCH 2. — **Friockheim.** — WATER WORKS.—The Arbroath District Committee invite tenders for supplying and laying about 1¾ miles of cast-iron pipes, chiefly 3-in. and 4-in. diameter, and constructing a meter house, etc. The plans may be seen at the office of Mr. W. K. Macdonald, District Clerk, Arbroath, and at the office of the Engineer, Mr. John M. Hogg, C.E., 14 Blythswood-square, Glasgow. Copies of the specification, etc., may be obtained from the Engineer on payment of 1*l.* 1s.

MARCH 2.—**Laindon.**—REPAIRS TO ROADWAY.—The Guardians invite tenders for repairs to a roadway at the Branch Workhouse, Dunton, near Laindon, Essex. Form obtained from Guardians' Offices, 45, Upper North-street, Poplar, E.

MARCH 2. — **Long Ditton.**—CONCRETE TUBES.—The U.D.C. of Esher and The Dittons invite tenders for providing and laying about 1,100 ft. of concrete tubes, etc., in Ditton Hill-road, Long Ditton, in accordance with plans, etc., prepared by Mr. H. C. Fread, its Engineer and Surveyor, which plans, etc., can be seen at Council Offices, Brabant Villa, Portsmouth-road, Thames Ditton.

MARCH 2.—**Prestwich.**—PERCOLATING BEDS, ETC.—The U.D.C. of Prestwich invite tenders for the work and materials required in the construction of No. 6 distributing chambers, No. 6 percolating beds, supply main, etc. The drawings may be seen, and copies of the specification, etc., obtained, at the office of Mr. Sydney H. Morgan, A.M.Inst.C.E., the Council Offices, Prestwich, Lancashire, upon payment of 2*l.* 2s.

MARCH 2.—**Tullamore.**—WATER MAINS.—Tullamore U.D.C. invite tenders for the extension of the public water mains. Copies of the maps, plans, etc., may be inspected at the Board-room, Tullamore Workhouse.

MARCH 2.—**Workington.**—SEWERAGE SCHEME.—The Corporation invite tenders for the provision and laying of about 2,900 lin. yds. of 18-in. diameter stoneware pipe sewer, with sea outfall. Drawings may be seen at the office of Mr. H. Bowman Williams, Borough Engineer and Surveyor, Town Hall, Workington, from whom copy of the specification, etc., can be obtained on the deposit of 3*l.* 3s.

MARCH 5.—**Stretford.**—STREET WORKS.—Stretford U.D.C. invite tenders for paving Chorlton-grove, etc. The drawings, etc., may be seen, and forms of tender, etc., obtained, on application to Mr. Ernest Worrall, the Council's Surveyor, on payment by cheque of 2*l.* 2s.

✱ MARCH 7.—**Hendon.**—ROAD MAKING.—The Hendon U.D.C. invite tenders for kerbing, channelling, metalling, paving, surface water drainage, etc., in Victoria-road, Mill Hill, N.W. See advertisement in this issue for further particulars.

MARCH 8.—**Deptford.**—WOOD PAVING.—Deptford B.C. invite tenders for wood paving the carriageways on either side of the tramway tracks, in portion of Brockley-road with creosoted deal blocks, and for other work. Form of tender, etc., can be obtained on application at the office of the Borough Surveyor, Mr. J. Sutcliffe, A.M.Inst.C.E., Town Hall, New Cross-road, S.E.

MARCH 14.—**Stanhope.**—SEWAGE DISPOSAL WORKS.—For laying 3,160 yds. of main sewer and the construction of tanks, filters, etc., for the U.D.C. Plans, etc., may be seen, and quantities, etc., obtained, on application to the Council's Engineer, Mr. J. S. Parker, A.M.Inst.C.E., Post-office-chambers, St. Nicholas-square, Newcastle-on-Tyne, or the Council's Surveyor, Mr. J. R. Ridley, Town Hall, Stanhope. Deposit of 1*l.*

NO DATE.—**Keighley.**—PAVING.—Paving, etc., of certain streets. Quantities from Borough Engineer's Office.

NO DATE.—**Sidmouth.**—STREET WORKS.—Sidmouth U.D.C. invite tenders (1) for widening the Station-road, by the cricket field; (2) for laying surface-water drains in Station-road and Temple-street. Particulars may be obtained from the Surveyor.

STONES, MATERIAL, AND STORES.

FEBRUARY 21. — **Birstall.** — MATERIALS.—Birstall U.D.C. invite tenders for the supply and delivery of 2¾-in. granite limestone and macadam. Further information may be obtained from the Surveyor's Office, Birstall.

FEBRUARY 21.—**Darlington.**—MATERIALS.—Darlington R.D.C. invite tenders for sanitary pipes, etc. Full particulars, etc., can be obtained on application to Mr. John Robinson, Highway Surveyor, Union Offices, Darlington.

FEBRUARY 21. — **Ware.** — GRANITE SPALLS. — The Guardians invite tenders for the supply of 70 tons of Guernsey granite spalls. Mr. Geo. H. Gisby, Clerk to the Guardians, Ware, Herts.

FEBRUARY 22.—**Altrincham.**—MATERIALS.—Altrincham U.D.C. invite tenders for the supply of materials. Forms of tender may be obtained on application to the Surveyor, Mr. H. E. Brown, Town Hall, Altrincham.

FEBRUARY 22.—**Antrim.**—SUPPLIES.—The Asylum Committee invite tenders for plumbing materials, paints and oils, etc. Forms to be had from the Clerk of the Asylum, Holywell, Antrim.

FEBRUARY 22.—**Diss.**—GRANITE, ETC.—Diss U.D.C. invite tenders for granite and steam rolling (about 400 tons of broken granite, 1½ to 1¾-in. gauge; 30 tons of 1-in.; 45 tons of ¼-in. clean chips; and 40 tons of ¾-in. to dust). No official tender form will be issued. Mr. Alfred Cooper, Surveyor, The Terrace, Diss.

FEBRUARY 22.—**Manchester.**—STORES.—Manchester Corporation Tramways Committee invite tenders for the supply of general stores. Forms of tender, etc., may be obtained on application to Mr. J. M. McElroy, General Manager, Corporation Tramways, 55, Piccadilly, Manchester.

FEBRUARY 22.—**Sowerby Bridge.**—MATERIAL.—Sowerby Bridge U.D.C. invite tenders for material required in making up Hollings Mill-lane (from Nos. 7 to 23 inclusive), Arnold-street, and Chester-street. Forms of tender, etc., may be obtained on application to Mr. George E. Wrigley, Engineer's Office, Sowerby Bridge.

FEBRUARY 22.—**Sowerby Bridge.**—MATERIAL.—Sowerby Bridge U.D.C. invite tenders for materials required during the year. Forms of tender, etc., may be obtained from Mr. George E. Wrigley, Engineer's Office, Sowerby Bridge.

✱ FEBRUARY 22. — **Willesden.** — WORKS AND MATERIALS.—The Willesden D.C. invite tenders for execution of works and supply of materials. See advertisement in this issue for further particulars.

FEBRUARY 23. — **Durham.** — MATERIALS.—Durham County Lunatic Asylum Visiting Committee invite tenders for supplying the asylum with glass, oils, paints, varnish, etc.; bricks, cement, and lime, etc. Forms, etc., may be had on application at the office of the Steward, at the Asylum.

FEBRUARY 23.—**Glasgow.**—STORES.—Glasgow and South-Western Railway Company invite tenders for permanent way stores. Detailed schedules and specifications can be obtained on application to Mr. R. F. Harrison, stores superintendent, Kilmarnock. Also No. 38 wire fencing and erecting same, for particulars of which apply to the company's engineer, St. Enoch Station.

FEBRUARY 23.—**Hendon.**—YELLOW DEAL ENDS.—The Guardians invite tenders for the supply of 20 fathoms of best yellow deal ends, delivered free to their Workhouse, near Edgware.

FEBRUARY 23.—**Swinton.**—MATERIALS.—The Swinton and Pendlebury U.D.C. invite tenders for materials for the year. Specifications, etc., can be obtained on application to Mr. H. Entwisle, Engineer and Surveyor, Council Offices, Swinton.

FEBRUARY 23.—**Westhampnett.**—ROAD MATERIAL.—The R.D.C. invite tenders for 3,540 cubic yds. of clean surface field flints and 10,840 cubic yds. of best-quality hard pit gravel. Forms, etc., to be obtained from Mr. William Parker Cogan, Clerk to the Council, 5, South-street, Chichester.

FEBRUARY 24. — **Great Yarmouth.** — CONTRACTS. — The Great Yarmouth T.C. invite tenders for the supply of oils, paints, timber, valves, covers, gulley grates, and general castings, etc. Forms of tender, etc., can be obtained on application at the Borough Surveyor's Office.

FEBRUARY 24. — **Hackney.** — ANNUAL CONTRACTS.—Tenders are invited for the execution of works and the supply and delivery of materials. Specifications, etc., may be obtained on application at the office of Mr. Norman Scorgie, M.Inst.C.E., Borough Engineer and Surveyor, Town Hall, Hackney, N.E., and on deposit, in each case, of a sum of 10s.

STORES, etc.—*continued.*

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

FEBRUARY 24.—**Hampton.**—MATERIALS. — Hampton U.D.C. invite tenders for the supply of materials, etc. Forms of tender, etc., can be obtained at the offices of the Council, Hampton, Middlesex.

FEBRUARY 24. — **Islington.** — ANNUAL CONTRACTS. — The B.C. invite tenders for contracts for one year. Forms of tender, etc., may be obtained on application at the Town Hall, Upper-street, N.

FEBRUARY 24.—**Leeds.**—TRAMWAYS SUPPLIES. — The Tramways Committee invite tenders for the supply of 1,100 tons of rails B. Eng. S. S. No. 4, 500 soleplates, 500 pairs of fishplates, etc. Conditions of contract, etc., may be obtained on application to Mr. J. B. Hamilton, General Manager, Tramways Offices, City-square, Leeds.

FEBRUARY 25.—**Cork.**—ANNUAL SUPPLIES.—The B.C. invite tenders for supplying timber, iron, paints, lubricating and other oils, glass, bricks, slates, cement, cut stone, flags, setts, sewer pipes, etc. Specification, etc., to be seen in the City Engineer's Office, City Hall.

FEBRUARY 25.—**Dorking.**—ROAD MATERIALS.—Dorking R.D.C. invite tenders for the supply of broken granite, basalt, quartzite, and chippings; also tarred macadam. Forms of tender, etc., will be forwarded on application to Mr. Wm. Rapley, jun., Surveyor, Tower Hill, Dorking.

FEBRUARY 25.—**Hartlepool.**—ROAD MATERIAL.—The Union R.D.C. invite tenders for road material and loading same, as per particulars obtainable from Mr. Burton, Road Surveyor, Greatham, *viâ* Stockton-on-Tees.

FEBRUARY 25.—**Merthyr Tydfil.**—MATERIALS.—The Guardians invite tenders for the supply of building materials, etc. Printed forms of tender may be obtained, together with envelopes, in which the same must be returned, on application to the Master at the Workhouse.

FEBRUARY 25.—**Merton.**—MATERIALS, ETC.—Merton U.D.C. invite tenders for materials, etc., for the year. Applications for forms of tender must be made to Mr. C. J. Mountifield, Clerk to the Council, District Council Offices, Kingston-road, Merton, Surrey, and must be accompanied by a stamped addressed foolscap envelope.

FEBRUARY 25. — **Swansea.** — STORES, STONE, IRONWORK, ETC.—The Council of the County Borough of Swansea invite tenders for stores. Forms of tender, etc., may be obtained at the office of the Borough Surveyor, 13, Somerset-place, Swansea, and from the Waterworks Engineer, Guildhall, Swansea. A payment of 1*l.* 1s. must be made for the form of tender for cast-iron pipes and castings.

FEBRUARY 26.—**Bury.**—STORES.—The Corporation of Bury invite tenders for the supply of stores to the gasworks. Forms of tender, etc., can be obtained on application to Mr. H. Simmonds, Engineer and Manager, Gasworks, Bury.

FEBRUARY 26.—**Carlisle.**—MATERIALS, ETC.—The Corporation of Carlisle invite tenders for the supply of stores and materials, etc. Forms of tender, etc., may be obtained at the office of Mr. Henry C. Marks, M.Inst.C.E., City Engineer and Surveyor, 36, Fisher-street, Carlisle.

FEBRUARY 26.—**Durham.**—ROAD METAL, ETC.—The C.C. of Durham invite tenders for (1) road metal, (2) cartage and team labour, and (3) tools and stores, etc., for the Auckland and Chester main road district. Printed forms of tender may now be obtained at the County Surveyor's Office, Shire Hall, Durham.

FEBRUARY 26.—**Heaton Norris.**—MATERIALS.—The U.D.C. of Heaton Norris invite tenders for the supply and delivery of materials and stores. Forms are to be obtained from Mr. F. W. Brooke, Clerk to the Council, Council Offices, Heaton Moor.

FEBRUARY 26.—**Hereford.**—MATERIALS. — Materials for twelve months. General conditions and specifications, etc., can be seen at the office of the City Surveyor.

FEBRUARY 26. — **Newburn.** — MATERIALS, ETC.—The Newburn U.D.C. invite tenders (1) for the leading of road materials; (2) highway materials. Samples of materials tendered for to be sent to the Surveyor, Mr. Thomas Gregory, Council Offices, Newburn, of whom particulars can be obtained.

FEBRUARY 26. — **Paddington.**—SUPPLIES, ETC.—The B.C. invite tenders for work and materials for one, two or three years. Forms of tender on application to the Borough Accountant, and after payment of a deposit of 10s. 6d. for each form.

FEBRUARY 28.—**Bolton-upon-Dearne.**—MATERIALS. —Tenders are invited for the supply of materials for the year. Forms of tender may be obtained from Mr. J. Ledger Hawksworth, Clerk, Council Offices, Station-road, Bolton-upon-Dearne, Rotherham.

FEBRUARY 28. — **Ealing.** — STORES.—The T.C. invite tenders for the supply of limes, pipes, etc., cement, etc. Printed forms of tender, etc., may be obtained on application to the Borough Surveyor, Mr. Charles Jones, M.Inst.C.E., at his office, Town Hall, Ealing, W.

FEBRUARY 28.—**Epsom.**—MATERIALS.—Epsom R.D.C. invite tenders for broken granite and chippings, etc. Particulars, etc., may be had on application to Mr. T. E. Ware, Surveyor to the Council, Waterloo-road, Epsom.

FEBRUARY 28.—**Gillingham (Kent).**—CABLES, ETC. —The B.C. invite tenders for the supply and delivery of cables, house service cut-outs, joint boxes, metallic lamps, meters, etc. Specifications, etc., may be obtained on application to the Borough Electrical Engineer, Mr. Alec. D. Chalmers, Generating Station, Gillingham-road, Gillingham (Kent).

FEBRUARY 28. — **Gravesend.** — MATERIALS.—The T.C. invite tenders for materials and goods. Lists of materials, etc., may be obtained at the office of the Borough Treasurer, Town Hall.

FEBRUARY 28-MARCH 7.—**Leeds.**—ANNUAL CONTRACTS FOR STORES.—The Improvements, Sewerage, and Property Committees invite tenders for the supply of materials. Forms of tender, etc., can be obtained at the office of Mr. W. T. Lancashire, City Engineer, Municipal Buildings, Leeds. Tenders to be delivered at the Town Clerk's Office, Town Hall, Leeds, not later than the following dates respectively:—Improvements Committee, February 28; Sewerage Committee, February 28; Property Committee (electrical fittings), March 7.

FEBRUARY 28.—**Leeds.**—LIME.—The Sewerage Committee invite tenders for the supply and delivery to March 31, 1911, of lime. Specifications, etc., may be obtained at the Sewerage Engineer's Office, Municipal Buildings, Leeds.

FEBRUARY 28.—**Newbury.**—FLINTS.—The R.D.C. invite tenders for the supply of hand-picked flints. For further particulars apply to Mr. A. Forrester, District Surveyor, Thatcham.

FEBRUARY 28. — **Southend-on-Sea.** — GENERAL STORES.—The Corporation invite tenders for the supply of articles for a period of two years. Forms of tender may be obtained upon application to Mr. E. J. Elford, M.Inst.M.E., Borough Surveyor, Southend-on-Sea.

FEBRUARY 28.—**Sutton-in-Ashfield.**—MATERIALS.— The U.D.C. invite tenders for the supply of tar macadam and broken slag. Form of tender, etc., may be obtained from Mr. Walter Burn, A.M.Inst.C.E., Surveyor's Office, Sutton-in-Ashfield.

FEBRUARY 28.—**Tenterden.**—MATERIALS, ETC.—The T.C. invite tenders for the supply of granite or other approved macadam and Kent ragstone; the carriage and steam-rolling of the above; and for mason's work in the borough. Further particulars, etc., may be obtained of Mr. W. L. C. Turner, Borough Surveyor, Tenterden.

FEBRUARY 28.—**Wimbledon.**—ANNUAL CONTRACTS.— The Corporation invite tenders for the supply and execution of materials, works, etc. Forms of specification, etc., may be obtained, and samples inspected, on application to the Borough Electrical Engineer, Electric Light Works, Durnsford-road, Wimbledon.

FEBRUARY 28.—**Yeovil.**—ROAD MATERIAL, ETC.—The Yeovil Corporation invite alternative one and three years' tenders for the supply, etc., of Keinton and other stone paving, kerbing, water table, and block pitching at Yeovil. Also for the supply of flints, broken granite and basalt, gravel, and asphalt during the one or three years. Copies, etc., may be obtained at the office of Mr. A. Oddy, Borough Surveyor, Municipal Offices, Yeovil.

MARCH 1.—**Blackrock.**—MATERIALS.—The U.D.C. of Blackrock invite tenders for supplies for the year ending March 31, 1911. Forms of tender can be obtained on application at office of Mr. R. Finlay Heron, Town Clerk, Town Clerk's Office, Town Hall, Blackrock, co. Dublin.

MARCH 1. — **Hounslow.** — MATERIALS.—Heston and Isleworth U.D.C. invite tenders for the supply of cement and lime, stoneware pipes, etc. Forms of tender may be obtained from Mr. J. G. Carey, Surveyor, Council House, Hounslow, W.

MARCH 1.—**London.**—PAINTS, ETC.—The Madras and Southern Mahratta Railway Company, Ltd., Board of Directors invite tenders for (1) paints, etc.; (2) miscellaneous tools and stores, as per specifications, which may be seen at the offices of the company. The charge for each specification is 1*l.* 1s., which will not be returned. Mr. H. Bonham Carter, Secretary. Offices, 91, York-street, Westminster, S.W.

MARCH 1. — **Smallburgh.** — ROAD MATERIAL. — Smallburgh R.D.C. invite tenders for the supply of road materials. Further particulars and forms of tender may be obtained on application to the District Surveyor, Mr. W. L. Lewis, Stalham.

MARCH 2. — **Esher.** — MATERIALS. — The U.D.C. of Esher and The Dittons invite tenders for supplying during the year Kentish brown flints and brick hard core, etc. Forms of tender may be obtained on application to Mr. H. C. Fread, Surveyor to the Council, enclosing a stamped addressed foolscap envelope.

* MARCH 2. — **Fulham.**—WORKS AND MATERIALS.— The Fulham B.C. invite tenders for execution of works and supply of materials. See advertisement in this issue for further particulars.

MARCH 2. — **Huddersfield.** — MATERIALS.—The Corporation invite tenders for the supply and delivery of materials for a period of twelve months. Specifications, etc., may be obtained on application at the offices of Mr. K. F. Campbell, M.Inst.C.E., M.Inst.E.E., Borough Engineer and Surveyor, 1, Peel-street.

MARCH 3. — **Castle Ward.**—MATERIALS.—Tenders are invited for supplying, quarrying, breaking, leading and laying on materials required for the several highways in the district for the year; also for supplying broken whinstone. Full particulars, etc., may be obtained from the Surveyor, Mr. David Hope, Ponteland.

MARCH 3. — **Smethwick.** — STORES.—The Corporation invite tenders for the supply of materials and articles for the year. Forms of tender may be obtained from Mr. C. J. Fox Allin, Borough Surveyor, Council House.

MARCH 3.—**Woolwich.**—CONTRACTS.—The Guardians of the Woolwich Union invite tenders for builders' materials. Forms of tender may be obtained at the Clerk's Offices at the Workhouse.

MARCH 4. — **Stafford.** — MATERIALS. — Staffordshire C.C. invite tenders for road materials, cartage, and tools. Specifications, etc., can be obtained on application to Mr. James Moncur, Chief Surveyor of Main Roads, County Buildings, Stafford.

MARCH 5.—**Driffield.**—ROAD MATERIAL.—The Highway Committee of the Driffield R.D.C. invite tenders for the supply of materials. Particulars, etc., can be obtained on application to Mr. T. Casson Beaumont, C.E., Surveyor, Driffield (for which stamped addressed envelope must be sent).

MARCH 5. — **Slough.** — MATERIALS. — Slough U.D.C. invite tenders for the supply and delivery of articles and materials for the year. Particulars, etc., may be obtained, and samples inspected, at the Surveyor's Office, The Cedars, Slough.

MARCH 7.—**Batley.**—MATERIALS.—The T.C. invite tenders for the supply of flagstones, setts, pavors, and kerbs, sanitary tubes, etc. Forms of specification, etc., may be obtained from the Borough Engineer, Mr. Oscar J. Kirby, at his office, Town Hall, Batley.

MARCH 7.—**Beverley.**—STONE.—The Highways and Bridges Committee of the East Riding C.C. invite tenders for the supply of about 7,000 tons of stone. Conditions, etc., may be obtained on application to the County Surveyor, Beverley.

MARCH 7. — **Cambridge.** — Team labour, timber, paint, etc., stoneware pipes and fittings, Portland cement, gravel, brooms, etc.—The U.D.C. invite tenders for the supply of materials and goods. Specifications may be seen, and forms of tender obtained, at the office of the Borough Surveyor, Guildhall, Cambridge.

MARCH 7.—**Eastbourne.**—MATERIALS.—The T.C. invite tenders for the supply of Portland cement, tools, etc. Specifications may be seen, and forms of tender obtained, at the Borough Surveyor's Office, Town Hall, Eastbourne.

MARCH 8.—**Birmingham.**—STORES AND MATERIALS FOR 1910-11.—Birmingham Tame and Rea District Drainage Board invite tenders for the supply of stores and materials for one year. General conditions, specifications, etc., may be obtained at the Board Offices, Tyburn, near Birmingham.

MARCH 8.—**Southall.**—CONTRACTS.—Southall Norwood U.D.C. invite tenders for the supply of materials, etc. Forms of tender, etc., can be obtained from Mr. Reginald Brown, A.M.Inst.C.E., F.S.I., Engineer and Surveyor, Public Offices, Southall.

MARCH 8.—**Wembley.**—SUPPLIES.—The U.D.C. invite tenders for the supply of materials for the year. Forms of tenders, etc., can be obtained from Mr. Fredk. W. Rodd, Clerk to the Council, Public Offices, Wembley, by forwarding a stamped addressed envelope.

MARCH 9. — **Bingham.** — MATERIALS. — Bingham R.D.C. invite tenders for the supply of materials. Form, giving full particulars, to be obtained at office of Mr. R. H. Beaumont, Clerk.

MARCH 9. — **South Shields.** — STORES. — South Shields Corporation invite tenders for the supply for their electricity works, West Holborn, of (1) engine-room stores, hardware, tools, carbons, lamps, etc., for the year ending March 31, 1911. Conditions, etc., may be seen, and all information obtained, on application to Mr. J. H. Cawthra, M.Inst.E.E., Borough Electrical Engineer, temporary offices, Mill Dam, South Shields.

MARCH 12. — **Belper.** — ROAD MATERIALS. — Belper R.D.C. invite tenders for the supply of road materials, etc. Specification, etc., may be obtained upon application to the Surveyor, Mr. Robert C. Cordon, Duffield, near Derby.

MARCH 14.—**Eccles.**—MATERIALS.—The Eccles Corporation invite tenders for the supply of materials for the year. Forms of tender, etc., may be obtained on application to Mr. Thomas S. Picton, C.E., Borough Engineer, Eccles.

MARCH 14. — **Guildford.** — MATERIALS. — The T.C. invite tenders for the supply of materials for a period of twelve months. All particulars, etc., may be obtained on application to the Borough Engineer, Mr. C. G. Mason, A.M.Inst.C.E.

MARCH 14. — **Middlesbrough.** — ROAD MATERIALS, SANITARY PIPES, TIMBER, SPECIAL CASTINGS, ETC.—The Streets Committee invite tenders for materials, etc. Specifications, etc., may be obtained on application at the Borough Engineer's Office.

MARCH 14.—**Sutton Coldfield.**—ANNUAL CONTRACTS. —The Corporation invite tenders for the supply of materials during the year. Conditions of contract, etc., may be obtained on application to Mr. W. A. H. Clarry, A.M.Inst.C.E., Borough Surveyor, the Council House, Sutton Coldfield.

MARCH 16.—**Strood.**—MATERIALS.—Strood R.D.C. invite tenders for highway materials and carting. Full particulars, etc., may be obtained on application to the Surveyor, Mr. L. Randerson, of Meopham, near Gravesend

MARCH 30.—**Hoo.**—MATERIALS.—Hoo R.D.C. invite tenders for highway materials, steam rolling, and carting. Printed forms of tender may be obtained of Mr. Richard Phillot Smyth, Clerk Strood, Kent.

NO DATE. — **Gainsborough.** — ROAD METAL. — The R.D.C. of Gainsborough invite tenders for the supply of road metal. Specifications, etc., may be obtained on application to Mr. Richard Maxwell, Surveyor, Lea-road, Gainsborough.

NO DATE. — **Yeadon.** — ROAD MATERIALS. — Yeadon U.D.C. invite tenders for the supply of various materials required for the making and repairing of roads and footpaths. Forms of tender, etc., by application to Mr. N. Houlden, Surveyor to the Council, Town Hall, Yeadon.

Public Appointment.

Nature of Appointment.	By whom Advertised.	Salary.	Application to be in
*CLERK OF WORKS	East Riding Lunatic Asylum	See advertisement in this issue	Feb. 21

Auction Sales.

Nature and Place of Sale.	By whom Offered.	Date of Sale.
*OLD BUILDING MATERIALS, UPPER NORWOOD—On the Site	Veryard & Yates	Feb. 22
*DEALS, BATTENS, BOARDS, TIMBER, ETC.—Great Hall, Winchester House, E.C.	Churchill & Sim	Feb. 23
*FREEHOLD PROPERTY, WANDSWORTH.—At the Mart	Edwin Fox, Bousfield, Burnetts, & Baddeley	Mar. 2

Patents.

APPLICATIONS PUBLISHED.*

1,319 of 1909.—Edwin Thomas: Kilns employed in the manufacture of bricks, tiles, pottery, and the like purposes.

1,524 of 1909.—Emil Baum: Scaffolding ladder.

1,622 of 1909.—Julius Kemeny and Akusius Zwack: Girder frames.

1,768 of 1909.—Frederick James Weary: Joint for showcases, window sashes, and the like.

1,973 of 1909.—Arthur John Pridmore: Door locks and latches.

3,430 of 1909.—Joseph Surtees Hogarth and Michael Hogarth: Casement windows.

4,055 of 1909.—John Alty: Valveless siphon cistern for the flushing of water-closets and the like.

15,919 of 1909.—James Leonard Mallory: Fastening devices for windows.

18,442 of 1909.—Robert Newton Fair: Machine for moulding pipes and the like from plastic material.

20,009 of 1909.—Hird Thornton: Roofing slates.

20,942 of 1909.—Herbert John Haddan (Dahlstrom Metallic Door Company): Metallic doors, window sashes, and the like.

SOME RECENT SALES OF PROPERTY:

ESTATE EXCHANGE REPORT.

February 3.—By GRIMLEY & SON (at Birmingham).

Birmingham.—195 to 201 (odd), Ledsam-st., u.t. 41 yrs., g.r. 2*l.* 10s. 2d., w.r. 87*l.* 10s. 8d. £505

Edgbaston.—1, Pakenham-rd., u.t. 40 yrs., g.r. 7*l.* 16s. 3d., y.r. 70*l.* 640

February 5.—By SYDNEY GALPIN (at Buckingham).

Gawcott, Bucks.—Woodfield, 24 a. 3 r. 31 p., f. and c. 800

Dudley Wood Closes, 5 a. 2 r. 10 p., f. and l... 310

February 8.—By CECIL HOBDAY.

Putney.—320, Upper Richmond-rd., f., p..... 1,000

7, Lytton-gr. and 2 a., u.t. 55 yrs., g.r. 37*l.*, p. 1,000

By MELROSE & RUSSELL.

Peckham.—252, Peckham-rye, f., e.r. 65*l.* 640

Dulwich.—Upland-rd., f.g. rents 19*l.*, reversion in 69½ yrs. 465

By ROGERS & COATES.

Plaistow.—London-rd., f.g. rents 20*l.*, reversion in 86 yrs..... 425

Walworth.—25 and 27, Inville-rd., u.t. 40½ yrs., g.r. 10*l.*, w.r. 72*l.* 16s. 345

By ARTHUR RUTTER, SONS, & CO. (at Cambridge).

Grantchester, Cambs.—1 to 12, Charterhouse-ter., f., gross rental 115*l.* 14s. 1,110

The Blue Ball b.h., and two cottages, f., gross rental 38*l.* 18s..... 525

February 9.—By LESLIE, MARSH, & CO.

South Lambeth.—4, South Lambeth-rd. (s.), f., y.r. 50*l.*..... 700

By DOUGLAS, YOUNG, & CO.

Finsbury Park.—18 and 20, Adolphus-rd., u.t. 63½ yrs., g.r. 25*l.* 4s., y.r. 112*l.*..... 590

February 10.—By BEARD & SON.

Bayswater.—8 and 10, Garway-rd., u.t. 11 yrs., g.r. 13*l.* 10s., y.r. 115*l.* 350

By NEWBON & SHEPHARDS.

Holloway.—31A, Medina-rd., u.t. 41½ yrs., g.r. 4*l.* 10s., y.r. 34*l.*..... 210

78, Tollington-rd., u.t. 29 yrs., g.r. 6*l.* 6s., y.r. 36*l* 200

92, Devonshire-rd., u.t. 42¾ yrs., g.r. 5*l.* 5s., y.r. 32*l.*..... 190

Barnsbury.—4, Belitha-villas, u.t. 33¾ yrs., g.r. 1*l.*, y.r. 43*l.* 250

Islington.—44, Linton-st., u.t. 17½ yrs., g.r. 4*l.* 4s., y.r. 35*l.* 125

By W. DAY & SONS (at Maidstone).

Maidstone.—12 Faith-st., f., p..... 330

33, Sandling-rd., f., p. 440

Headcorn.—Village-st., two villas and plot of land, f..... 525

Oak-la., enclosure of meadow land, 2 a. 3 r. 19 p., f..... 150

Contractions used in these lists.—F.g.r. for freehold ground-rent; l.g.r. for leasehold ground-rent; i.g.r. for improved ground-rent; g.r. for ground-rent; r. for rent; f. for freehold; c. for copyhold; l. for leasehold; p. for possession; e.r. for estimated rental; w.r. for weekly rental; q r. for quarterly rental; y.r. for yearly rental; u.t. for unexpired term; p.a. for per annum; yrs. for years; la. for lane; st. for street; rd. for road; sq. for square; pl. for place; ter. for terrace; cres. for crescent; av. for avenue; gdns. for gardens; yd. for yard; gr. for grove; b.h. for beerhouse; p.h. for public-house; o. for offices; s. for shops; ct. for court.

* All these applications are in the stage in which opposition to the grant of a patent upon them can be made.

PRICES CURRENT OF MATERIALS.

*** Our aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

BRICKS, &c.

Per 1000 Alongside, in River. £ s. d.

Best Stocks 1 8 0

Per 1000, Delivered at Railway Depôt.

	£ s. d.		£ s. d.
Picked Stocks for Facings ...	2 10 0	D'ble Stretchers	16 7 6
Flettons	1 6 0	Double Headers	13 7 6
Best Fareham Red	3 12 0	One Side and two Ends	17 7 6
Best Red Pressed Ruabon Facing	5 0 0	Two Sides and one End.....	18 7 6
Best Blue Pressed Staffordshire ..	3 15 0	Splays & Squints	15 17 6
Do. Bullnose.....	4 0 0	Best Dipped Salt Glzd. Str'tch'rs	10 17 6
Best Stourbridge Fire Bricks ...	3 14 0	Headers	10 7 6
GLAZED BRICKS.		Quoins, Bullnose, and Flats	14 7 6
Best White and Ivory Glazed Stretchers	10 17 6	D'ble Stretchers	16 7 6
Headers	10 7 6	Double Headers	13 7 6
Quoins, Bullnose, and Flats	14 7 6	One Side and two Ends	17 7 6
		Two Sides and one End	18 7 6
		Splays & Squints	15 17 6

Second Quality White and Dipped Salt Glazed, £1 7s. per 1000 less than best.

	s. d.	
Thames and Pit Sand	6 6	per yard delivered.
Thames Ballast...	5 0	,, ,,
Best Portland Cement.....	28 0	per ton, ,,
Best Ground Blue Lias Lime	19 0	,, ,,

NOTE.—The cement or lime is exclusive of the ordinary charge for sacks.

Grey Stone Lime ..... 11s. 6d. per yard, delivered.
Stourbridge Fireclay in sacks 27s. 0d. per ton at rly. dpt.

STONE.

Per Ft. Cube. s. d.

BATH STONE — delivered on road waggons, Paddington Depôt..... 1 6½

Do. do. delivered on road waggons, Nine Elms Depôt 1 8½

PORTLAND STONE (20 ft. average)—

Brown Whitbed, delivered on road waggons, Paddington Depôt, Nine Elms Depôt, or Pimlico Wharf 2 1

White Basebed, delivered on road waggons, Paddington Depôt, Nine Elms Depôt, or Pimlico Wharf 2 2½

Per Ft. Cube, Delivered at Railway Depôt.

	s. d.		s. d.
Ancaster in blocks..	1 10	Red Corsehill in blocks	2 2
Beer in blocks	1 6	Closeburn Red Freestone	2 0
Greenshill in blocks	1 10	Red Mansfield Freestone	2 4
Darley Dale in blocks	2 4		

YORK STONE—*Robin Hood Quality.* s. d.

Scappled random blocks 2 10

Per Ft. Super., Delivered at Railway Depôt.

6 in. sawn two sides landings to sizes (under 40 ft. super.).....	2 3
6 in. rubbed two sides ditto, ditto	2 6
3 in. sawn two sides slabs (random sizes)	0 11½
2 in. to 2½ in. sawn one side slabs (random sizes)	0 7½
1½ in. to 2 in. ditto, ditto	0 6

Per Ft. Cube, Delivered at Railway Depôt.

Scappled random blocks	3 0

Per Ft. Super., Delivered at Railway Depôt.

6 in. sawn two sides landings to sizes (under 40 ft. super.)	2 8
6 in. rubbed two sides ditto	3 0
3 in. sawn two sides slabs (random sizes)	1 2
2 in. self-faced random flags	0 5

SLATES.

Per 1000 of 1200 at Railway Depôt.

In. In.	£ s. d.	In. In.	£ s. d.
20×10 best blue Bangor	13 2 6	20×10 best Eur'ka unfading green	15 17 6
20×12 ditto	13 17 6	20×12 ditto	18 7 6
20×10 1st quality ditto	13 0 0	18×10 ditto	13 5 0
20×12 ditto	13 15 0	16×8 ditto	10 5 0
16×8 ditto.....	7 5 0	20×10 permanent green	11 12 6
22×10 best blue Portmadoc ...	12 12 6	18×10 ditto	9 12 6
16×8 ditto.....	6 12 6	16×8 ditto.....	6 12 6

TILES.

At Railway Depôt.

	s. d.		s. d.
Best plain red roofing (per 1000)	42 0	Best Ruabon red, brown, or brindled (Edw'ds) (per 1000)	57 6
Hip and Valley per doz.).....	3 7	Do. Ornamental (per 1000)	60 0
Best Broseley (per 1000)	50 0	Hip (per doz.)...	4 0
Do. Ornamental (per 1000)	52 6	Valley (per doz.)	3 0
Hip and Valley (per doz.).....	4 0	Best Red or Mottled Staffordshire do. (Peakes) (per 1000)	51 9

TILES (*continued*).

At Railway Depot.

	s. d.		s. d.
Do. Ornamental do. (per 1000).....	54 6	Do. pressed (per 1000)	47 6
Hip (per doz.)...	4 1	Do. Ornamental (per 1000)	50 0
Valley (per doz.	3 8	Hip (per doz)...	4 0
Best "Rosemary" brand plain (per 1000)	48 0	Valley (per doz.)	3 6
Best Ornamental (per 1000).....	50 0	Staffords. (Hanley) Reds or Brindled (per 1000)	42 6
Hip (per doz.)...	4 0	Hand-made sand-faced (per 1000)	45 0
Valley (per doz.)	3 8	Hip (per doz.)...	4 0
Best "Hartshill" brand, plain sand-faced (per 100) ...	50 0	Valley (per doz.)	3 6

WOOD.

BUILDING WOOD.	At per standard. £ s. d.	£ s. d.
Deals: best 3 in. by 11 in. and 4 in. by 9 in. and 11 in.....	14 0 0	... 15 10 0
Deals: best 3 by 9	13 10 0	... 14 10 0
Battens: best 2½ in. by 7 in. and 8 in., and 3 in. by 7 in. and 8 in.	11 10 0	... 12 10 0
Battens: best 2½ by 6 and 3 by 6...	0 10 0	less than 7 in. and 8 in.
Deals: seconds.....	1 0 0	less than best.
Battens: seconds.....	0 10 0	,, ,,
2 in. by 4 in. and 2 in. by 6 in....	9 10 0	... 10 10 0
2 in. by 4½ in. and 2 in. by 5 in...	9 0 0	... 10 0 0
Foreign Sawn Boards— 1 in. and 1¼ in. by 7 in.	0 10 0	more than battens.
¾ in.	1 0 0	,,
Fir timber: best middling Danzig or Memel (average specification)	At per load of 50 ft. 5 0 0	... 5 10 0
Seconds	4 10 0	... 5 0 0
Small timber (8 in. to 10 in.) ...	3 17 6	... 4 0 0
Small timber (6 in. to 8 in.).....	3 5 0	... 3 10 0
Swedish balks	2 12 6	... 3 0 0
Pitch-pine timber (30 ft. average)	4 10 0	... 5 5 0

JOINERS' WOOD.	At per standard.	
White Sea: first yellow deals, 3 in. by 11 in.....	24 10 0	... 25 10 0
3 in. by 9 in.	22 10 0	... 23 10 0
Battens, 2½ in. and 3 in. by 7 in.	17 0 0	... 18 0 0
Second yellow deals, 3in. by 11 in.	19 0 0	... 20 0 0
,, ,, 3 in. by 9 in.	18 0 0	... 19 10 0
Battens, 2½ in. and 3 in. by 7 in.	14 0 0	... 15 0 0
Third yellow deals, 3 in. by 11 in. and 9 in.	14 0 0	... 15 0 0
Battens, 2½ in. and 3 in by 7 in.	1 10 0	... 12 10 0
Petersburg: first yellow deals, 3 in. by 11 in.....	21 10 0	... 22 10 0
Do. 3 in. by 9 in.	18 10 0	... 19 10 0
Battens	14 0 0	... 15 0 0
Second yellow deals, 3 in. by 11 in.	16 10 0	... 17 10 0
Do. 3 in. by 9 in.	15 0 0	... 16 0 0
Battens	11 10 0	... 12 10 0
Third yellow deals, 3 in. by 11 in.	13 10 0	... 14 10 0
Do. 3 in. by 9 in.....	13 0 0	... 14 0 0
Battens	10 10 0	... 11 0 0
White Sea and Petersburg— First white deals, 3 in. by 11 in.	15 0 0	... 16 0 0
,, ,, 3 in. by 9 in.	14 0 0	... 14 10 0
Battens.....	11 10 0	... 12 10 0
Second white deals, 3 in. by 11 in.	14 0 0	... 15 0 0
,, ,, 3 in. by 9 in.	13 0 0	... 14 0 0
Battens	10 10 0	... 11 0 0
Pitch-pine: deals.....	19 0 0	... 21 0 0
Under 2 in. thick extra	0 10 0	... 1 0 0
Yellow pine—First, regular sizes	44 0 0	upwards.
Oddments	32 0 0	,,
Seconds, regular sizes	33 0 0	,,
Oddments	28 0 0	,,
Kauri Pine—Planks, per ft. cube..	0 3 6	... 0 5 0
Danzig and Stettin Oak Logs— Large, per ft. cube	0 3 0	... 0 3 9
Small ,, ,, ...	0 2 6	... 0 2 6
Wainscot Oak Logs, per ft. cube..	0 5 6	... 0 6 0
Dry Wainscot Oak, per ft. sup. as inch	0 0 8½	... 0 0 9½
¾ in. do. do	0 0 7	... —
Dry Mahogany—Honduras, Tabasco, per ft. super. as inch...	0 0 10	... 0 1 1
Selected, Figury, per ft. super as inch	0 1 6	... 0 2 6
Dry Walnut, American, per ft. super. as inch	0 0 10	... 0 1 0
Teak, per load	18 0 0	... 22 0 0
American Whitewood Planks, per ft. cube.....	0 4 0	... 0 5 0

Prepared Flooring, etc.—	Per square.	
1 in. by 7 in. yellow, planed and shot	0 13 6	... 0 17 0
1 in. by 7 in. yellow, planed and matched	0 14 0	... 0 18 0
1¼ in. by 7 in. yellow, planed and matched	0 16 0	... 1 0 0
1 in. by 7 in. white, planed and shot	0 12 0	... 0 14 6
1 in. by 7 in. white, planed and matched	0 12 6	... 0 15 0
1¼ in. by 7 in. white, planed and matched	0 15 0	... 0 16 6
¾ in. by 7 in. yellow, matched and beaded or V-jointed brds.	0 11 0	... 0 13 6
1 in. by 7 in. ,, ,,	0 14 0	...
¾ in. by 7 in. white ,, ,,	0 10 0	... 0 11 6
1 in. by 7 in. ,, ,,	0 12 9	... 0 15 0

6 in. at 6d. to 9d. per square less than 7 in.

JOISTS, GIRDERS, &c.

	In London, or delivered Railway Vans, per ton.					
	£	s.	d.	£	s.	d.
Rolled Steel Joists, ordinary sections	7	0	0	7	10	0
Compound Girders, ordinary sections	9	0	0	10	0	0
Steel Compound Stanchions	11	0	0	12	0	0
Angles, Tees, and Channels, ordinary sections	9	0	0	10	0	0
Flitch Plates	9	0	0	9	10	0
Cast Iron Columns and Stanchions including ordinary patterns	7	10	0	8	10	0

METALS.

	Per ton, in London.					
	£	s.	d.	£	s.	d.
IRON—						
Common Bars	8	10	0	9	0	0
Staffordshire Crown Bars, good merchant quality	8	15	0	9	5	0
Staffordshire "Marked Bars"	10	10	0		—	
Mild Steel Bars	8	15	0	9	5	0
Hoop Iron, basis price	9	5	0	9	10	0
" " Galvanised	17	0	0		—	
(*And upwards, according to size and gauge.)						
Sheet Iron Black—						
Ordinary sizes to 20 g.	9	15	0		—	
" " 24 g.	10	15	0		—	
" " 26 g.	12	5	0		—	
Sheet Iron, Galvanised, flat, ordinary quality—						
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 20 g.	15	0	0		—	
Ordinary sizes to 22 g. and 24 g.	15	10	0		—	
" " 26 g.	16	10	0		—	
Sheet Iron, Galvanised, flat, best quality—						
Ordinary sizes to 20 g.	18	0	0		—	
" " 22 g. and 24 g.	18	10	0		—	
" " 26 g.	20	0	0		—	
Galvanised Corrugated Sheets—						
Ordinary sizes, 6 ft. to 8 ft. 20 g.	14	10	0		—	
" " 22 g. and 24 g.	14	15	0		—	
" " 26 g.	16	5	0		—	
Best Soft Steel Sheets, 6 ft. by 2 ft. to 3 ft. to 20 g. and thicker	12	0	0		—	
Best Soft Steel Sheets, 22 g. & 24 g.	13	0	0		—	
" " " 26 g.	15	0	0		—	
Cut Nails, 3 in. to 6 in.	10	10	0	11	0	0
(Under 3 in., usual trade extras.)						

LEAD, &c.

	Per ton, in London.					
	£	s.	d.			
LEAD—Sheet, English, 4lb. and up.	17	0	0		—	
Pipe in coils	17	10	0		—	
Soil pipe	20	10	0		—	
Compo pipe	20	10	0		—	
ZINC—Sheet—	In casks of 10 cwt.					
Vielle Montagne	28	12	6		—	
Silesian	28	5	0		—	
Zinc, in bundles, 1s. per cwt. extra.						
COPPER—						
Strong Sheet per lb.	0	1	0		—	
Thin " "	0	1	1		—	
Copper nails "	0	0	10		—	
Copper wire "	0	0	10		—	
BRASS—						
Strong Sheet "	0	0	11		—	
Thin "	0	1	0		—	
TIN—English Ingots "	0	1	6		—	
SOLDER—Plumbers' "	0	0	7		—	
Tinmen's "	0	0	9		—	
Blowpipe "	0	1	0		—	

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES.

Per Ft., Delivered.

15 oz. thirds	2½d.	26 oz. fourths	3d.
" fourths	1½d.	32 oz. thirds	4¾d.
21 oz. thirds	3d.	" fourths	4¼d.
" fourths	2½d.	Fluted Sheet, 15 oz.	3½d.
26 oz. thirds	4d.	" 21 oz.	4¼d.

ENGLISH ROLLED PLATE IN CRATES OF STOCK SIZES.

Per Ft., Delivered.

⅛ Hartley's	2½d.	Figured, Oxford	
¼ "	2½d.	Rolled, & 'Oceanic'	
⅜ "	2½d.	Glass, white	3½d.
		Ditto, tinted	5d.

OILS, &c.

		£	s.	d.
Raw Linseed Oil in pipes	per gallon	0	2	11
" " " in barrels	"	0	3	0
" " " in drums	"	0	3	3
Boiled " " in barrels	"	0	3	3
" " " in drums	"	0	3	6
Turpentine in barrels	"	0	3	4
" in drums	"	0	3	6
Genuine Ground English White Lead	per ton	20	10	0
Red Lead, Dry	"	20	0	0
Best Linseed Oil Putty	per cwt.	0	7	6
Stockholm Tar	per barrel	1	12	0

VARNISHES, &c.

	Per gallon.		
	£	s.	d.
Fine Pale Oak Varnish	0	8	0
Pale Copal Oak	0	10	6
Superfine Pale Elastic Oak	0	12	6
Fine Extra Hard Church Oak	0	10	0
Superfine Hard-drying Oak, for seats of Churches	0	14	6
Fine Elastic Carriage	0	12	0
Superfine Pale Elastic Carriage	0	16	0
Fine Pale Maple	0	10	0
Finest Pale Durable Copal	0	18	0
Extra Pale French Oil	1	1	0
Eggshell Flating Varnish	0	18	0
White Pale Enamel	1	4	0
Extra Pale Paper	0	12	0
Best Japan Gold Size	0	10	6
Best Black Japan	0	16	0
Oak and Mahogany Stain	0	9	0
Brunswick Black	0	8	0
Berlin Black	0	16	0
Knotting	0	10	9
French and Brush Polish	0	10	6

TENDERS.

Communications for insertion under this heading should be addressed to "The Editor," and must reach us *not later than* 10 *a.m. on Thursday.* [N.B.—We cannot publish Tenders unless authenticated either by the architect or the building owner; and we cannot publish announcements of Tenders accepted unless the amount of the Tender is stated, nor any list in which the lowest Tender is under 100*l.* unless in some exceptional cases and for special reasons.]

* Denotes *accepted.* † Denotes *provisionally accepted.*

ANNFIELD PLAIN (Durham).—For alterations and additions at the central premises, for the Annfield Plain Industrial Co-operative Society, Ltd. Mr. G. T. Wilson, architect, 22, Durham-road, Blackhill:—

G. Hare, Annfield Plain £955 7

CANTERBURY.—For alterations and additions to the Isolation Cottage at the Union Workhouse, for the Guardians. Mr. H. Dore, architect, 82, Castle-street, Canterbury:—

H. C. Hadley	£115 10 0	J. W. Edwards	£87 10 0
G. Browning	110 0 0	C. Mount	87 0 0
J. C. Eloy	102 6 8	G. Wiltshire	83 0 0
Harris Bros	98 15 0	L. T. Dadds‡	78 12 0
F. T. Gentry	90 15 0		

‡ Accepted subject to consent of Local Government Board.

[All of Canterbury.]

CARDIFF.—For constructing an elliptical skew-arch bridge over the River Rumney, for Monmouth County Council and Cardiff Corporation:—

Barnes, Chaplain, & Co., Cardiff* .. £6,616 12 2

CARLISLE.—For erecting an external iron staircase at Hornaby Hill House, for the Board of Guardians. Mr. George Armstrong, Architect, 24, Bank-street, Carlisle:—

E. Musgrave, Court-street, Carlisle £55

CARSHALTON.—For sewage disposal works (Contract No. 2), for the Urban District Council. Messrs. Strachan & Weekes, engineers, 9, Victoria-street, Westminster, S.W.:—

S. Kavanagh & Co.	£10,978 14 7
A. Hill & Co.	10,901 16 2
O. Wright & Co.	10.291 6 10
G. G Rayner	10,182 10 10
R C. Brebner & Co.	10,134 0 4
W. Muirhead & Co.	10,076 10 1
E. & E. Iles	9,685 0 0
Jarman & Co.	9,682 0 0
J. Moran & Son	9,368 18 2
G. Bell & Sons, Ltd.	9,312 18 6
J. Mackay	9,306 16 1
J. May	8 827 19 0
W. Morley & Sons	8,744 13 2
J. B. Wickstead & Co.	8,732 17 10
W. Cunliffe & Sons, Ltd., 39, Corporation-street, Birmingham*	8,531 10 6

CHATHAM.—For laying 6,300 yds. super. wood-paving at High-street, for the Town Council. Mr. C. Day, Borough Surveyor, Town Hall, Chatham:—

The Acme Flooring and Paving Co. (1904), Ltd., Gainsborough-road Victoria Park, London, N.E.,* 15s. 4d. per yd. super.

CHATHAM.—For a tank van for sewage, for the Town Council. Mr. C. Day, Borough Surveyor, Town Hall, Chatham:—

G. Waller & Son, Phœnix Ironworks, Stroud, Gloucester* £60

CHISWICK.—For 170 yds. of close-paled oak fencing at the sewage disposal works, for the Urban District Council. Mr. J. H. Abbott, Engineer, Sewage Disposal Works, Chiswick:—

F. Davis & Co.	£90 12 0	Millars Karri & Jarrah Co., (1902), Ltd.	£82 0 0
J. & S. Agate, Ltd.	89 3 9	M. Marshall	80 6 4
W. Muirhead & Co.	89 1 9	Rowland Bros.	80 5 0
B. Horton & Son	87 8 0	G. Blay	79 19 0
L. Gasson	87 0 0	R. Mulford	75 19 10
A. Turner & Son	86 0 0	A. Stevens	73 2 8
A. James & Co., Ltd.	84 15 4	E. C. White, Basingstoke‡	72 12 0
R. Batcheller	83 6 5		

‡ Recommended for acceptance.

CROSSNESS.—For repairs to No. 3 river-water settling pond at the Crossness outfall, for the London County Council:—

J. Mowlem & Co., Ltd., under the jobbing schedule of prices.

DARTFORD.—For repairs to external roads at Joyce Green Smallpox Hospital, near Dartford, for the Metropolitan Asylums Board. Mr. W. T. Hatch, M.Inst.C.E., Engineer-in-Chief:—

J. W. Ellingham	£768 0 0
W. Griffiths & Co., Ltd	392 16 7
A. T. Catley	366 0 0
W. H. Wheeler & Co., Ltd.	335 11 11
F. Miskin, Ltd.	330 0 0
Road Maintenance and Stone Supply Co., Ltd., The Crescent, Gravesend*	299 19 9

DARTFORD.—For cleaning and painting work, etc. at the smallpox hospitals near Dartford, Kent, for the Metropolitan Asylums Board. Mr. W. T. Hatch, M.Inst.C.E., Engineer-in-Chief:—

E. Dyke	£1,500 0	W. Hussey	£979 0
B. Jewell	1,500 0	L. Kazak	970 0
W. J. Simms & Sons	1,498 0	S. T. Wright, 150, Brixton-hill, S.W.*	907 10
J. Moseley	1,480 0	United Service Labor Brigade	867 0
J. W. Ellingham	1,387 0	R. Woollaston & Co.	859 0
Barrett & Power	1,089 0		
Vigor & Co.	996 0		
S. Squire	980 0		

DARTFORD.—For removing and refixing corrugated iron roofing at the Orchard Smallpox Hospital, near Dartford, Kent, Mr. W. T. Hatch, M.Inst.C.E., M.I.Mech.E., Engineer-in-Chief for the Metropolitan Asylums Board:—

Barrett & Power	£2,386 0 0	W. Hussey	£1,400 0 0
W. Foster & Son	2,203 13 3	L. Kazak	1,035 0 0
General Iron Foundry Co., Ltd.	1,650 0 0	B. Jewell	888 0 0
J. W. Ellingham	1,584 0 0	Wood Bros., 2, Victoria-road, Forest Gate*	666 10 0

DORCHESTER.—For laying down a maple floor at the Corn Exchange, for the Corporation. Mr. Percival T. Harrison, A.M.Inst.C.E., Borough Engineer, Dorchester:—

Hollis Bros.	£118 18 6	J. Miller	£97 14 0
G. A Davis	107 7 0	Jesty & Baker, Portland*	89 17 6
C. E. Slade	101 5 0		

GORLESTON.—For a block of four lock-up shops, Bells-road, Gorleston, for Mr. J. G. Bellamy. Messrs. Cockrill & Cockrill, architects and surveyors, Post Office-chambers, Gorleston-on-Sea:—

Moore & Sons	£750 0	G. Beech	£698 0
R. Fleming	720 10	E. Millichamp	690 0
R. Wales	715 0	C. Sheen	689 18
E. T. Woods*	698 15		

HAMMERSMITH.—For brick building, for the London County Council trade school for girls:—

Rowley Bros.	£2,321 9 0
H. L. Holloway	1,487 0 0
C. Wall, Ltd.	1,473 12 0
J. Carmichael	1,352 0 0
A. Roberts & Co., Ltd.	1,312 10 0
J. & C. Bowyer, Ltd.	1,271 0 0
W. Johnson & Co., Ltd.	1,270 0 0
Holloway Bros. (London), Ltd.	1,237 0 0
Spencer, Santo, & Co., Ltd.	1,233 0 0
F. & H. F. Higgs	1,199 0 0
G. Munday & Sons, Muscovy-house, Trinity-square*	1,084 0 0

LAINDON.—For erection of school at Laindon Hills, Essex, for the Essex Education Committee. Mr. Christopher M. Shiner, A.R.I.B.A., architect, 10, John-street, Adelphi, W.C., and the Gate House, Grays, Essex. Quantities by Mr. George Silvester, 10, Duke-street, Adelphi:—

Brand	£2,464 19 6	Hammond & Sons	£1,950 0 0
Wall & Co.	2,187 2 0	Brown Bros.	1,825 11 0
Spencer, Santo	2,158 0 0	Archer & Sons	1,768 0 0
W. Potter	2,131 0 0	H. J. Carter	1,710 0 0
T. Bruty	2,077 0 0	G. Brown, Grays‡	1,700 0 0
Dobson	2,038 19 7		
Hammond & Miles	1,951 0 0		

‡ Recommended for acceptance.

LLANFAIR.—For new school at Llanfair P.G., for the Anglesey Education Committee. Mr. J. Owen, County Architect, Menai Bridge:—

R. Thomas	£3,468	H. & J. Williams	£2,978
W. & O. Pritchard	3,265	Roberts & Williams	2,954
Evans & Pritchard	3,260	H. Hughes	2,900
R. & J. Williams	3,153	R. Jones, Llanwnda*	2,829

LONDON.—For Poplar Coroner's Court, for the London County Council:—

Abbot & Carlton	£4,023 19 11	R. Woollaston & Co.	£3,295 0 0
Pasterfield & English	3,695 0 0	Sabey & Son, Ltd.	3,283 0 0
W. Reason	3,597 0 0	E. Lawrence & Sons, Ltd.	3,254 0 0
A. Webb	3,589 0 0	Cripps & Son	3,485 0 0
R. A. Lowe & Co.	3,250 0 0	Newell & Lusty	3,463 0 0
F. S. Sumpter & Co	3,235 0 0	F. & G. Foster	3,333 0 0
B. E. Nightingale	3,209 0 0	J. Barker & Co., Ltd.	3,329 0 0
J. Parsons	3,047 0 0	H. King & Son	3,318 0 0
Gathercole Bros., Norbury*	3,000 0 0	F. Webster & Son	3,299 0 0

[Messrs. Gathercole Bros. to sublet to the United Stone Firms, Ltd., the mason's work, to Messrs. Etridge & Sons, the work of roof tiling, and to Messrs. Van Straaten, the work of wall tiling.]

HACKNEY.—For kerbing, channelling, paving, making-up, etc., of Egerton-road, for the Borough Council. Mr. Norman Scorgie, Borough Engineer and Surveyor, Town Hall, Hackney, N.E.:—

—	If the ordinary Edge Kerb and the Flat Channel are of—				
	Norwegian Granite.	Cornish Granite.	Irish Granite.	Guernsey Granite.	Leicestershire Granite.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
W. Griffiths & Co., Ltd.	1,810 6 10	1,788 10 2	1,814 3 6	1,803 13 6	—
G. Porter	1,790 18 2	1,773 13 2	1,802 8 2	1,793 5 8	1,798 11 6
E. T. Bloomfield	1,789 16 0	1,778 6 0	1,778 16 0	1,781 16 0	1,789 16 0
A. T. Catley, 23, Lloyd-square, W.C.	1,764 8 4	1,738 8 4	1,794 8 4	1,736 8 4*	1,794 8 4
G. J. Anderson	1,754 17 3	1,739 17 3	1,744 17 3	1,756 17 3	—
T. Adams	1,751 9 5	1,736 9 5	1,736 9 5	—	—

RAVENSTHORPE.—For street works, for the Urban District Council. Mr. W. H. Cox, Surveyor, District Council Offices, Ravensthorpe :—

—	Tanhouse-street.	Albion-street.	Commercial-street	Raven-street.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.
S. Coop & Son, Densbury	626 4 10*	395 8 5*	246 13 1*	203 10 1
J. Crossley, jun.	804 10 6	511 10 9	317 11 11	254 12 11
Garforth Bros.	707 8 5	447 9 5	278 9 5	223 4 5
C. Walker	807 3 10	522 15 0	321 16 8	256 10 0
A. Oakes	742 15 0	574 1 1	325 5 0	249 10 0
Edwards Bros.	727 11 1½	491 17 0	305 8 4½	246 16 11
C. Robinson	898 18 8	548 7 0	329 17 2	270 16 2
D. Brown, Cleckheaton	644 13 3	414 1 1	248 9 3	199 11 9*
H. Barraclough	679 14 0	401 16 5	249 18 1	200 1 10
W. Barraclough	695 17 0	416 17 8	253 4 4	202 7 3
G. Kitson & Sons	745 16 9	508 11 2	309 11 1	248 14 1
J. Bateman	703 7 6	460 19 11	283 13 5	226 3 2
Surveyor's estimate	686 16 10	429 1 4	320 1 5	211 2 7

LONDON.—For repairs, Westminster Bridge, for the London County Council:—
The Cadogan Ironworks £448
H. Young & Co., Ltd. 248
J. Westwood & Co., Ltd., Millwall, E.* 215

LONDON.—For paving and sewer works, garden-row, etc., St. Luke scheme, for the London County Council:—
T. Wood & Sons £2,335 2 10
W. Manders 2,162 8 3
R. C. Brebner & Co 1,950 18 10
D. R. Patterson, Ltd. 1,897 11 11
J. Mowlem & Co., Ltd., Westminster* 1,833 0 0
[The Chief Engineer's estimate, comparable with the tenders, is £1,873.]
[John Mowlem & Co., Ltd., to sublet to the Val de Travers Asphalte Co., Ltd., the French Asphalte Co., Ltd., the asphalte paving portion of the work.]

LONDON.—For supply of Guernsey granite setts, for the London County Council :—
(i.) W. Griffiths & Co., Ltd., for the supply of 1,500 tons of Guernsey granite setts, 3 in. by 6 in., at the prices of 28s 11d. and 28s. 9d. a ton, and 800 tons, 4 in. by 6 in., at the prices of 24s. 11d. and 24s. 9d. a ton, delivered to Metropolis and Bridge wharves, *i.e.*, depots north of the Thames, and (ii.) Fry Bros., for the supply of 1,000 tons of Guernsey granite setts, 4 in. by 6 in., at the prices of 23s. 11d. a ton, delivered to Battersea and Deptford wharves, and 25s. 11d. a ton to Harleyford-road depot.

LONDON.—For supply of shingle, for the London County Council :—

	Per cubic yd. s. d.
Thames Sand Dredging Co., Ltd., Eastcheap, E.C.*	6 11
T. Scholey & Co.	{ 7 7 / ‡9 0
H. Covington & Sons	8 6
Ham River Grit Co.	8 6
W. Whiteway & Co.§	—

‡ Alternative tender.
§ Quotes only for a small part.

MAESTEG.—For erecting a detached house in Salisbury-road, for Dr. W. Kirkby. Mr. E. Whitfield Burnett, architect, St. Michael's-road, Maesteg. Quantities by architect :—
L. Williams £1,428
Price Bros. 1,290
W. Thomas & Co. .. 1,288
J. Lewis 1,230
Bowens & Davies £1,098
W. T. Lewis, 15, Castle-street, Maesteg* 1,090

PENTLEPOIR.—For the erection of new dwelling-house and out-offices at Pentlepoir, near Tenby, for Mr. George Lewis. Mr. J. Preece James, architect, Tenby :—
T. Poole* £475

STOCKDALE.—For excavating, concreting, and walling, in connexion with diversion of River Ellen, and drainage works at Stockdale and Whitefield House, for Aspatria, Silloth, and District Joint Water Board. Mr. J. Graham, engineer, Castle-street, Carlisle :—
J. Beaty £2,100 0 0
J. Marshall & Co. 1,657 5 0
J. Routledge .. 1,515 11 0
W. Jackson .. 1,476 0 0
Exors. of J. Arundel 1,452 9 7
A. Braithwaite & Co. £1,434 11 4
A. Hyslop 1,385 7 3
J. Laing & Son 1,268 17 0
J. Dawson .. 1,235 19 5
J. Pickthall .. 1,122 0 0
C. Bushby & Sons, Leeds* 1,086 9 0

TENBY.—For pulling down old premises and erecting two new shops and dwelling-houses on the site in High-street, Tenby, for Mrs. McCulloch. Mr. J. Preece James, architect, Tenby :—
First Contract.
W. H. Phillips .. £1,585 0
Adams & Parcell 1,087 14
Thomas & Son* £1,077 0

TENBY.—For constructing new cattle market, sheds, boundary walls, etc., for the Narberth Cattle Market Co. Mr. J. Preece Jones, architect, Tenby :—
T. Griffiths‡ £1,050
Thomas Bros. 975
E. Parry 950
J. Rees & Sons, Llan Mills* £800
‡ No iron work included.

WAKEFIELD.—For water main in Doncaster-road, Belle Vue, for the Rural District Council. Mr. F. Massie, M.Inst.C.E., Tetley House, Kirkgate, Wakefield :—
Stanton Ironworks Co., Ltd. £559 3 2
Wilson Bros. 357 2 9
Glenfield & Kennedy, Ltd. 12 3 3

WEST THURROCK.—For tarring infants' and girls' playground at West Thurrock Schools, for the Essex Education Committee. Mr. Christopher M. Shiner, A.R.I.B.A., architect, 10, John-street, Adelphi, W.C., and The Gatehouse, Grays, Essex :—
Brown Bros. £79 0
Pavitt & Son 68 0
H. H. Carter 58 0
Mead, Little Thurrock* £57 10

WOODFORD.—For building rifle range, etc., for Messrs. Barclay, Perkins, & Co., Ltd. Mr. F. G. Newnham, surveyor, Park-street, Rotherhithe, S.E :—
Small & Sons £298 0
Maxwell Bros., Ltd. 276 0
A. Rendall 249 12
J. S. Limn & Co., Ltd. £234 10
F. Ranger & Son* 209 0

Ham Hill Stone.
Doulting Stone.
Portland Stone.
The Ham Hill and Doulting Stone Co., Limited
(incorporating the Ham Hill Stone Co. and C. Trask & Son. The Doulting Stone Co.).
Norton, Stoke-under-Ham, Somerset.
London Agent: — Mr. E. A. Williams, 16, Craven-street, Strand

Asphalte.—The Seyssel and Metallic Lava Asphalte Company (Mr. H. Glenn), Office, 42, Poultry, E.C.—The best and cheapest materials for damp courses, railway arches, warehouse floors, flat roofs, stables, cow-sheds and milk-rooms, granaries, tun-rooms, and terraces. Asphalte Contractors to the Forth Bridge Co.

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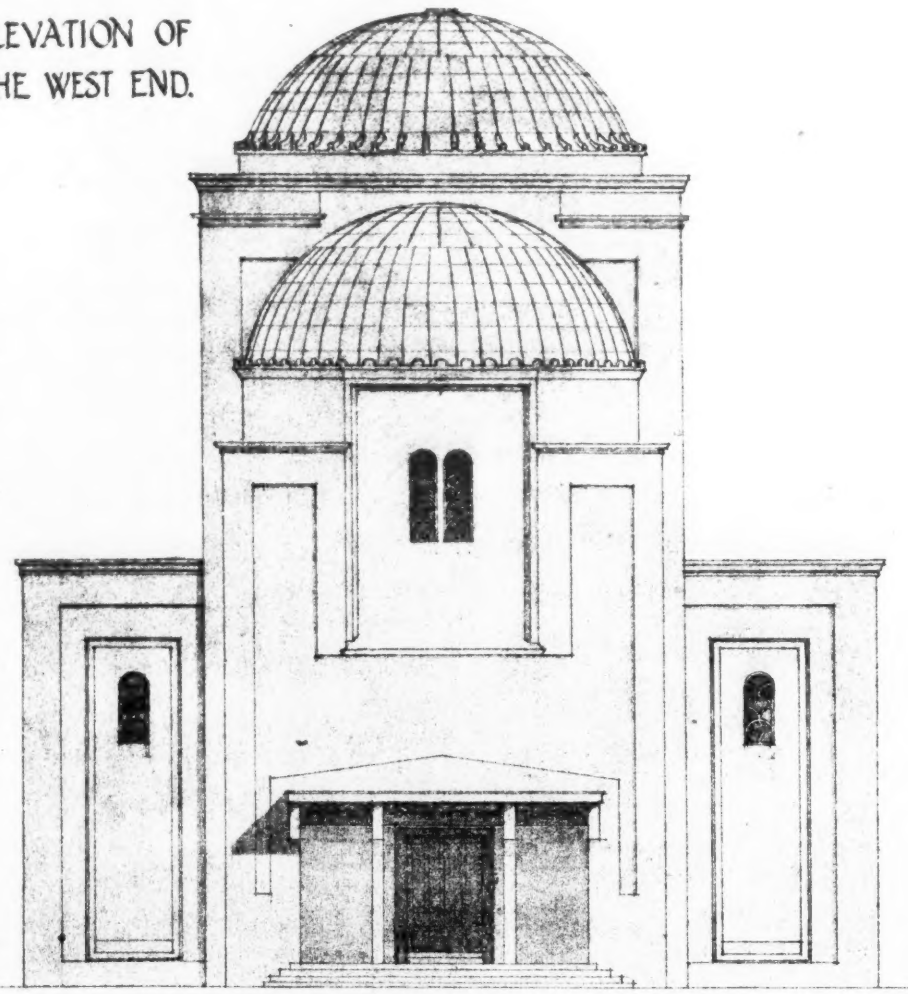
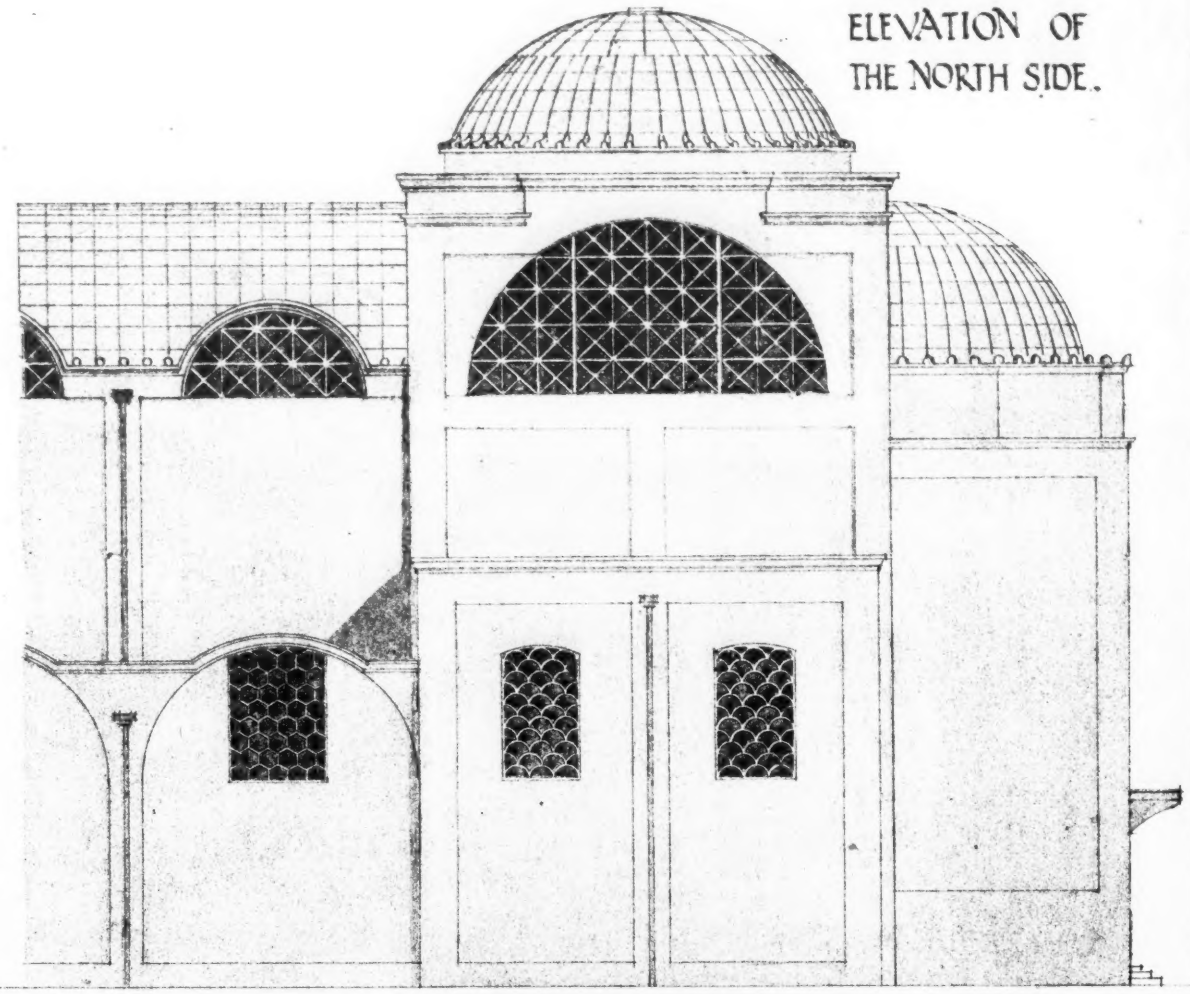
ELEVATION OF THE WEST END.



ELEVATION OF THE NORTH SIDE.



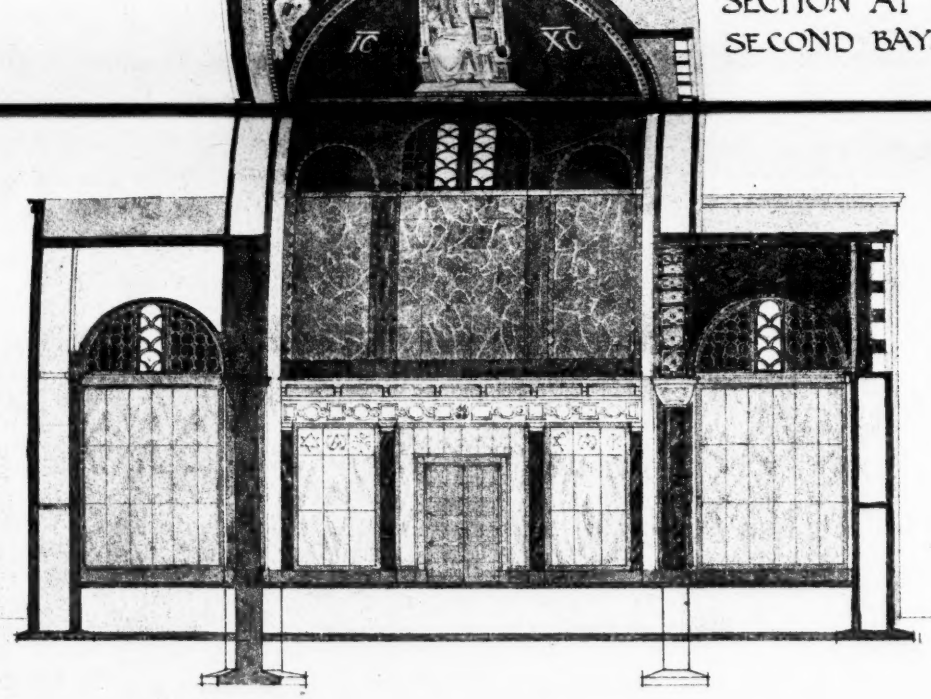
HALF CROSS SECTION AT WESTERN BAY

Scale

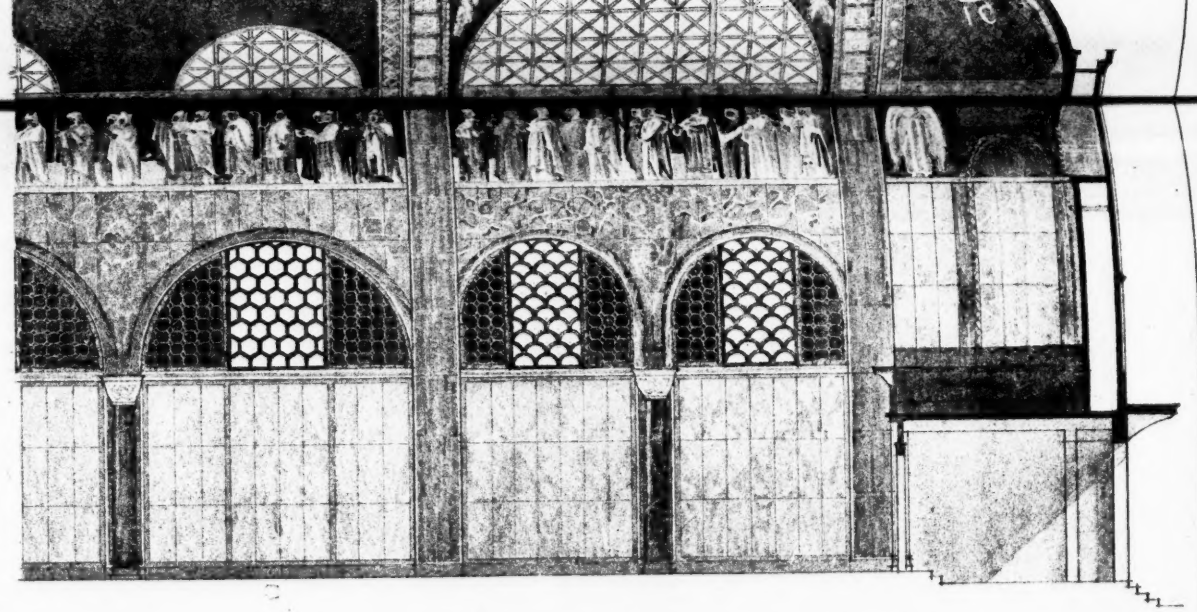
10 5 0 10 20 30 40 50

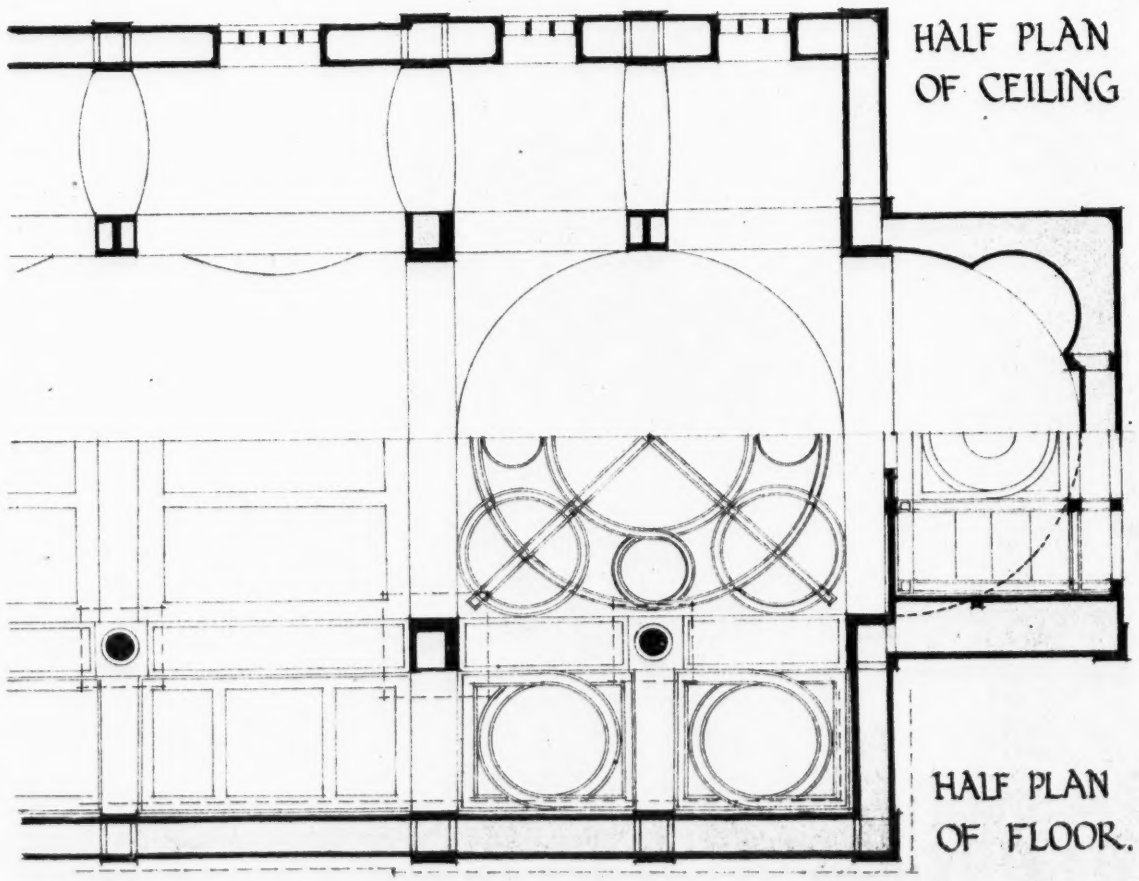
HALF CROSS SECTION AT SECOND BAY.

SECTION UPON THE LONGITUDINAL AXIS



SECTION AT SECOND BAY.





HALF PLAN OF CEILING

HALF PLAN OF FLOOR.

DESIGN FOR A CHRISTIAN CHURCH TO BE CONSTRUCTED OF CONCRETE REINFORCED WITH IRON BARS.=

TWO BAYS COVERED WITH A BARREL VAULT CONNECT THE GREAT CROSSING WITH THE WESTERNMOST BAY WHICH HAS A HEMI-SPHERICAL VAULT : AN APSE AND SEMIDOME WITH A SQUARE PORCH UNDER, BOUND THE NAVE WESTWARDS. THE INTERIOR IS SHOWN DECORATED WITH MARBLE AND MOSAIC. PLASTER SGRAFFITO AND PAINT MIGHT BE USED. THE EXTERIOR IS FLOAT FINISHED AND THE ROOFS COVERED WITH CAST CONCRETE TILES HAVING BITUMEN JOINTS.

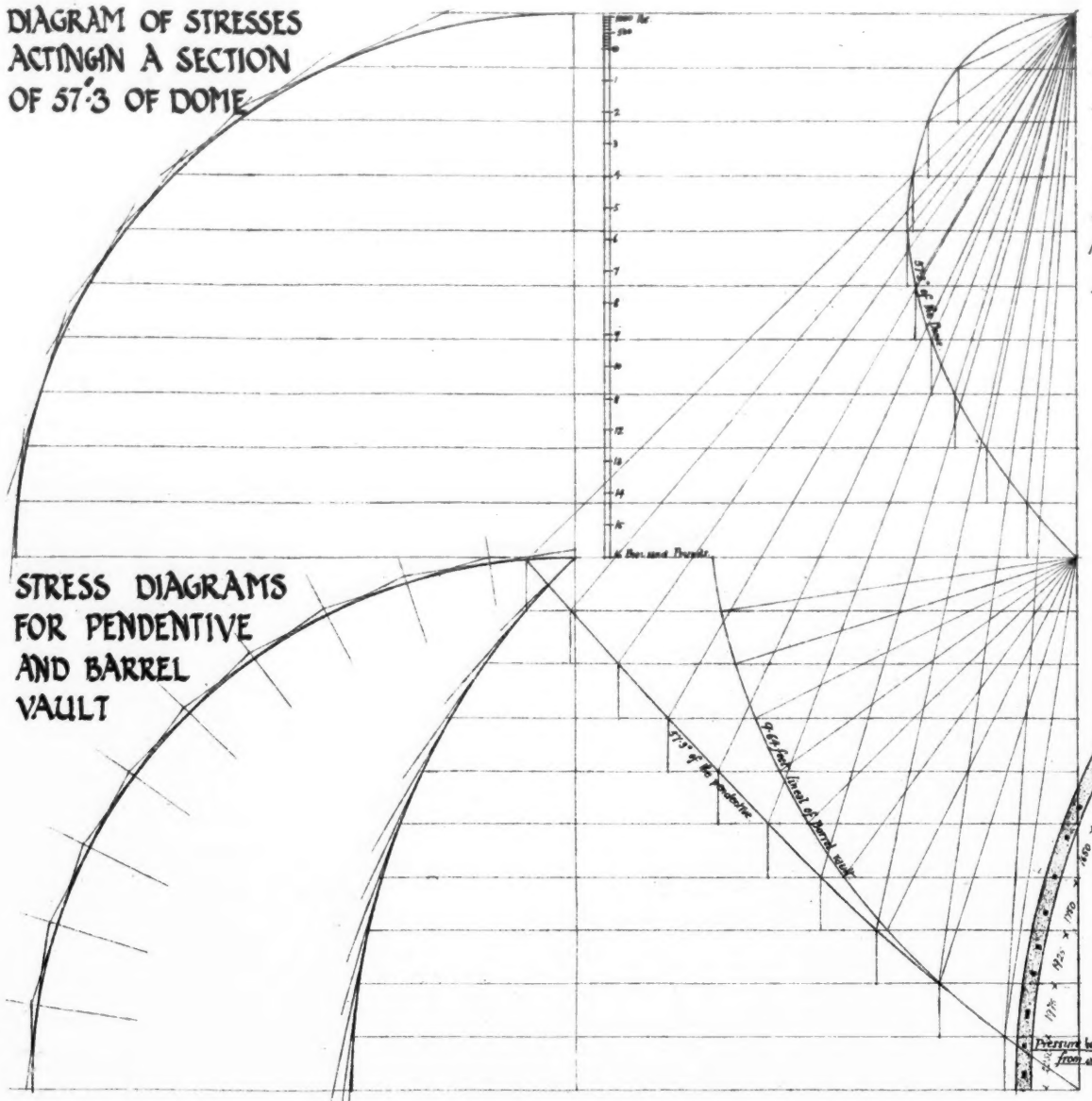
BY MR. C. PERCIVAL WALGATE, A.R.I.B.A.

UNIV. OF MICH.

Grissell Gold Medal, R.I.B.A., 1910.

INK-PHOTO SPRAGUE & C° LT° 4 & 5, EASTHARDING STREET, FETTER LANE, E.C.

DIAGRAM OF STRESSES ACTINGIN A SECTION OF 57·3 OF DOME



STRESS DIAGRAMS FOR PENDENTIVE AND BARREL VAULT

Red figures to Dome and Pendentive represent the ring stresses Measured from the diagrams, and the reinforcement are shown as follows

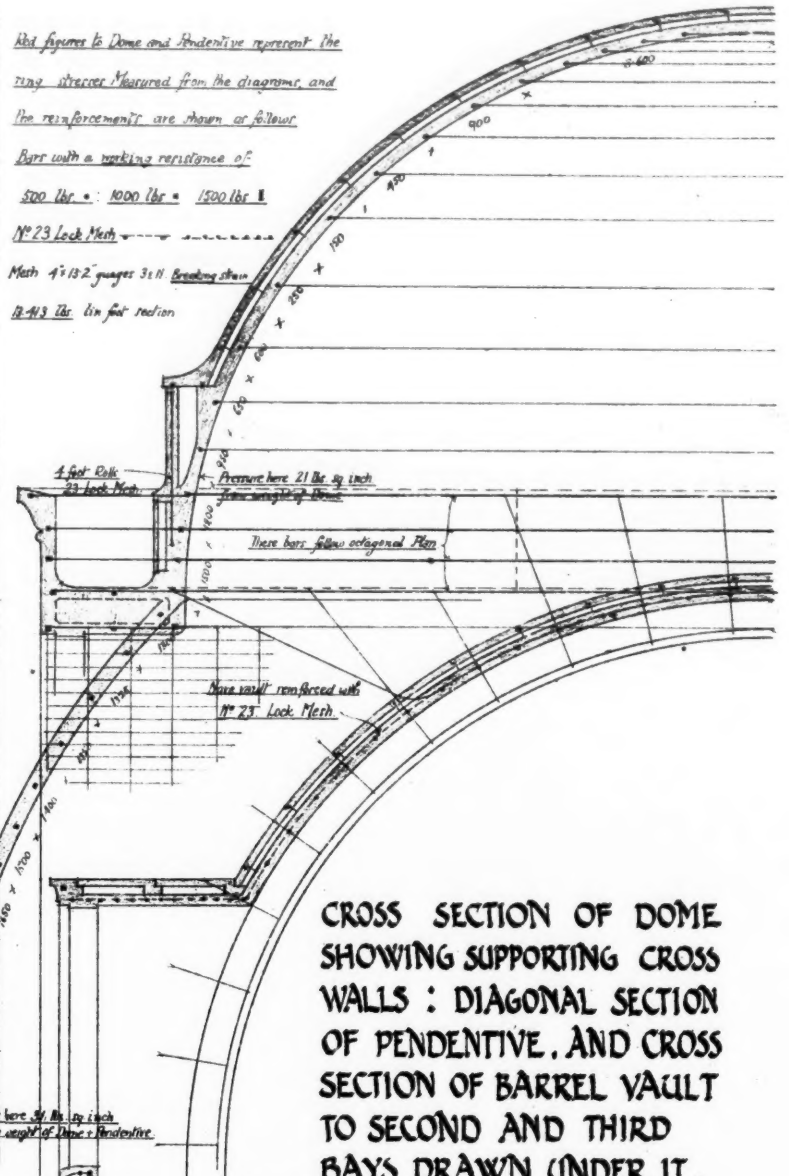
Bars with a working resistance of:

500 lbs = 1000 lbs = 1500 lbs

No 23 Lock Mesh

Mesh 4"x 13·2" gauges 3 & 11 Breaking strain

13·413 lbs 6in foot section


4 feet Rolls 23 Lock Mesh
Pressure here 21 lbs. sq. inch from weight of Dome
Three bars follow octagonal Plan
Nave vault reinforced with No 23 Lock Mesh
Pressure here 47 lbs. sq. inch from weight of Barrel
A

CROSS SECTION OF DOME SHOWING SUPPORTING CROSS WALLS : DIAGONAL SECTION OF PENDENTIVE. AND CROSS SECTION OF BARREL VAULT TO SECOND AND THIRD BAYS DRAWN UNDER IT.

	lbs.
SQUARE BAY DOME	106100
DO. PENDENTIVE	12000
DO INNER WALL	36000
DO OUTER WALL	74000
DO DOUBLE CROSS WALL	83100
NAVE BAY HALF VAULT	36100
DO HALF INNER WALL	11850
DO HALF OUTER WALL	13875
DO ONE BAY WIND.	30000
SQUARE BAY WIND.	52000

CONSTRUCTIONAL DIAGRAMS TO REINFORCED CONCRETE CHURCH

BY MR C. PERCIVAL WALGATE, A·R·I·B.A.

0 1 2 3 4 5 10 15

THE CONCRETE TO BE COMPOSED OF ONE PART OF PORTLAND CEMENT, TWO OF SAND, AND SIX OF GRADED BROKEN STONE TO PASS A ¾ INCH RING. THE THICKNESS OF WALL SLABS AND VAULTS IS 4½" UNLESS GREATER STRENGTH IS REQUIRED. "LOCK MESH" REINFORCEMENT USED UNLESS CONCENTRATED STRAINS ARE TO BE RESISTED BECAUSE OF THE FACILITY WITH WHICH IT IS PLACED IN POSITION. THE WALLS ARE CELLULAR IN TYPE TO AFFORD

DO OUTER WALL	74 000
DO DOUBLE CROSS WALL	83 100
NAVE BAY HALF VAULT	36 100
DO HALF INNER WALL	11 850
DO HALF OUTER WALL	13 875
DO ONE BAY WIND	30 000
SQUARE BAY WIND	52 000
ONE BAY AISLE VAULT	68 300
SMALL DO	54 000
CORNER PIER	84 000

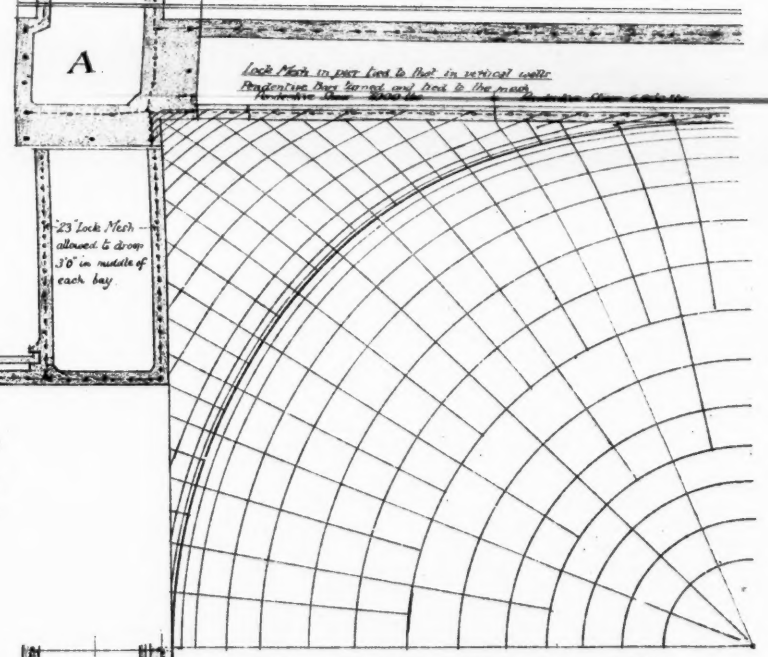
H. V. C. PERCIVAL WALGATE, ART. B.A.

0 1 2 3 4 5 10 15

THE CONCRETE TO BE COMPOSED OF ONE PART OF PORTLAND CEMENT, TWO OF SAND, AND SIX OF GRADED BROKEN STONE TO PASS A ¾ INCH RING. THE THICKNESS OF WALL SLABS AND VAULTS IS 4½" UNLESS GREATER STRENGTH IS REQUIRED. "LOCK MESH" REINFORCEMENT USED UNLESS CONCENTRATED STRAINS ARE TO BE RESISTED BECAUSE OF THE FACILITY WITH WHICH IT IS PLACED IN POSITION. THE WALLS ARE CELLULAR IN TYPE TO AFFORD INSULATION, SPACE FOR PIPES ETC. CONCRETE COLUMNS OF THE "MATERI" CONSTRUCTION MIGHT BE SUBSTITUTED FOR THE MARBLE ONES SHOWN, WHICH LATTER HOWEVER BEAR ONLY A DIRECT VERTICAL LOAD. THE FLOOR IS KEPT UP TO ALLOW A THOROUGH SYSTEM OF HEATING AND VENTILATION. WALL FOOTINGS JUST BELOW SURFACE SOIL. PIER DO. 50' DEEP.

LOAD ON PIER 'A'. ¼DOME, PENDENTIVE. ½SQUARE BAY WALLS. ½CROSS WALLS ¼ BAY NAVE VAULT. ½BAY AISLE WALLS. ¼ NORMAL + ¼ SMALL AISLE VAULT + 77000 LBS WIND BY ROTARY MOMENTS, AND ITS OWN WEIGHT 343.000 LBS

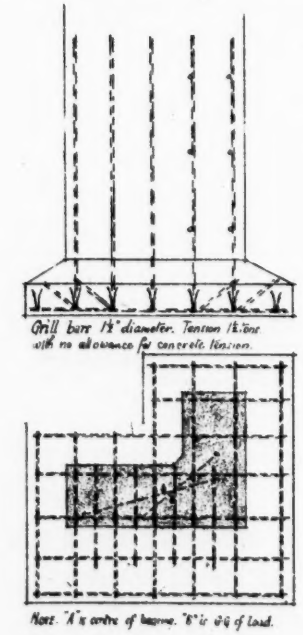
LOAD ON COLUMN. ½BAY VAULT 1 BAY WALLS. ½BAY AISLE VAULT 121.700 LBS

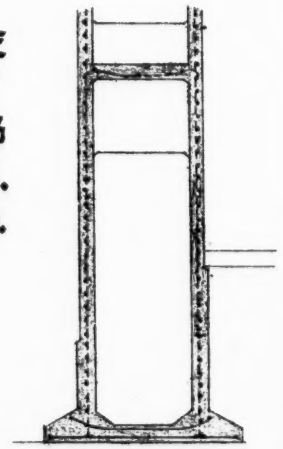


PLAN OF ONE FOURTH OF DOME WITH ONE PENDENTIVE, CROSS WALL AND CORNER SUPPORT.

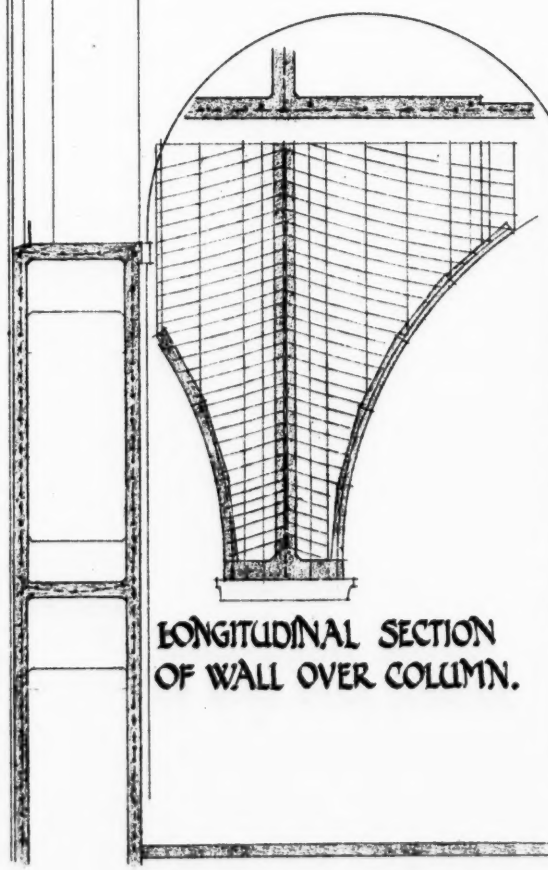
SECTION OF AISLE BAY AT CENTRE OF WINDOW.

DETAIL OF PIER AT THE EASTERN CORNER OF DOME: BASE BEARING 343 THOUSAND LBS. ON HARD CLAY BED.

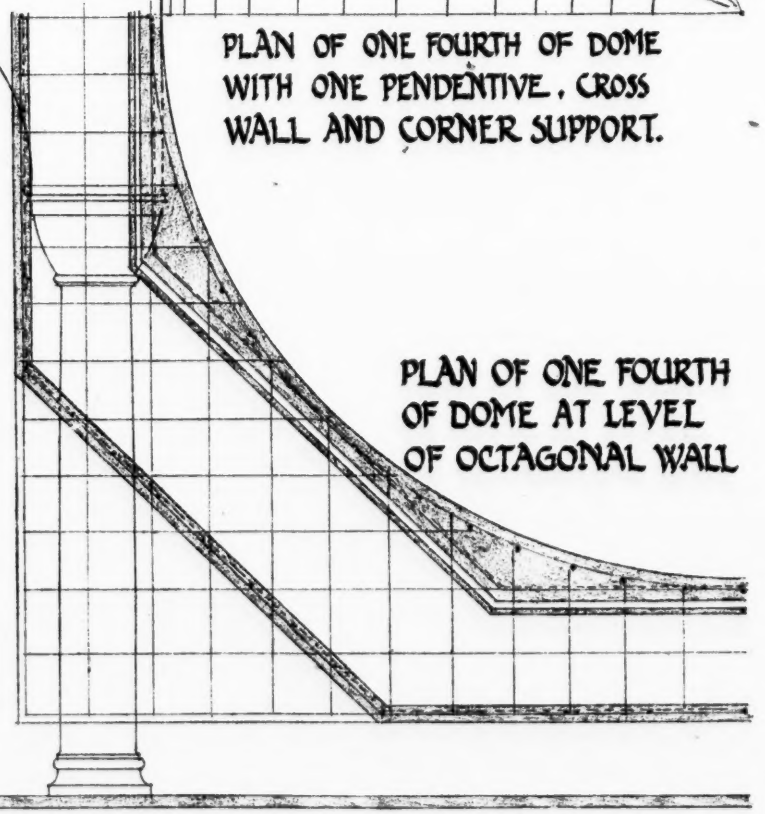




SECTION OF AISLE WALL



LONGITUDINAL SECTION OF WALL OVER COLUMN.



PLAN OF ONE FOURTH OF DOME AT LEVEL OF OCTAGONAL WALL

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Grissell Gold Medal, R.I.B.A., 1910.

DESIGN FOR A CHURCH OF REINFORCED CONCRETE.

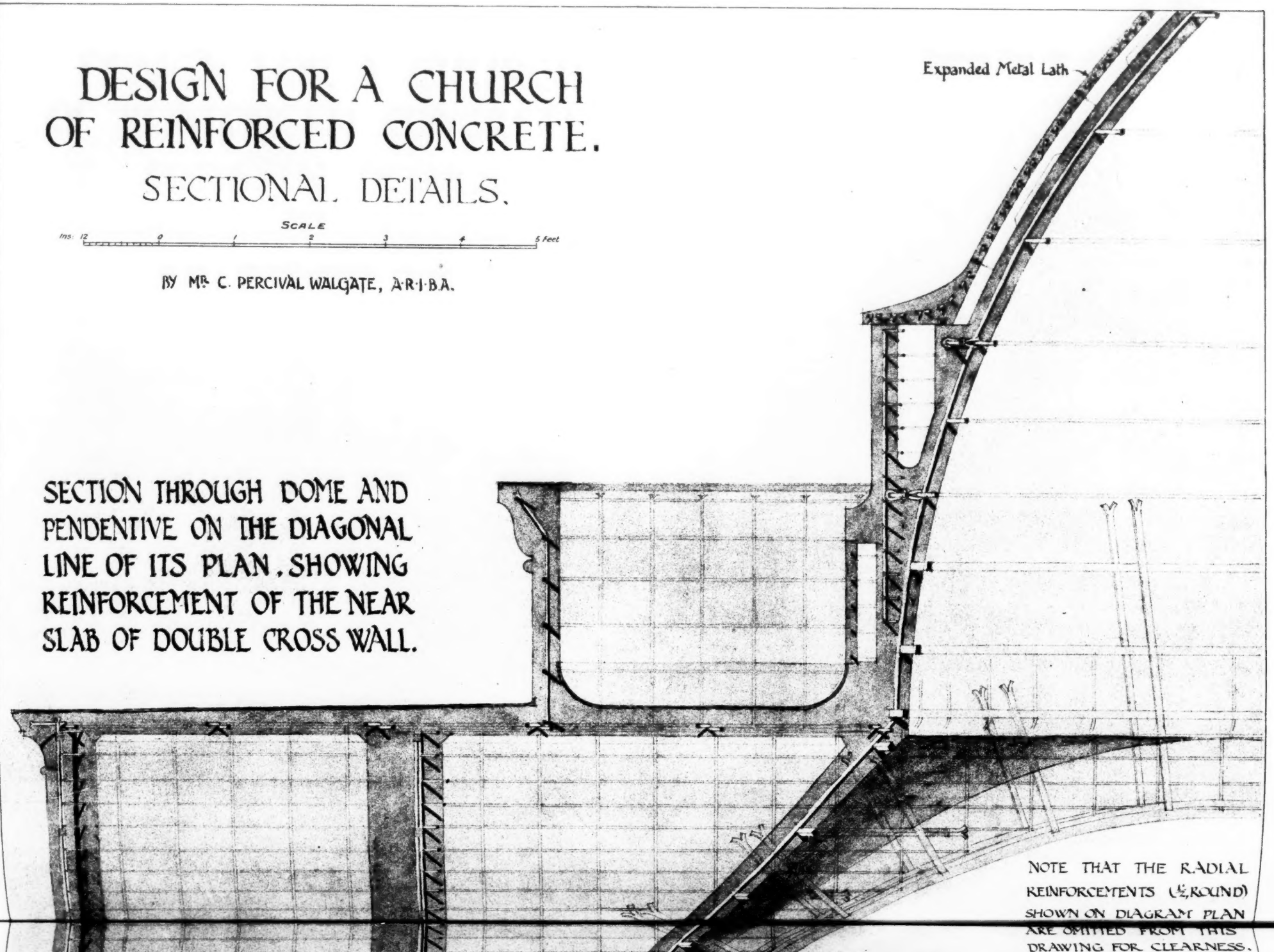
SECTIONAL DETAILS.

SCALE

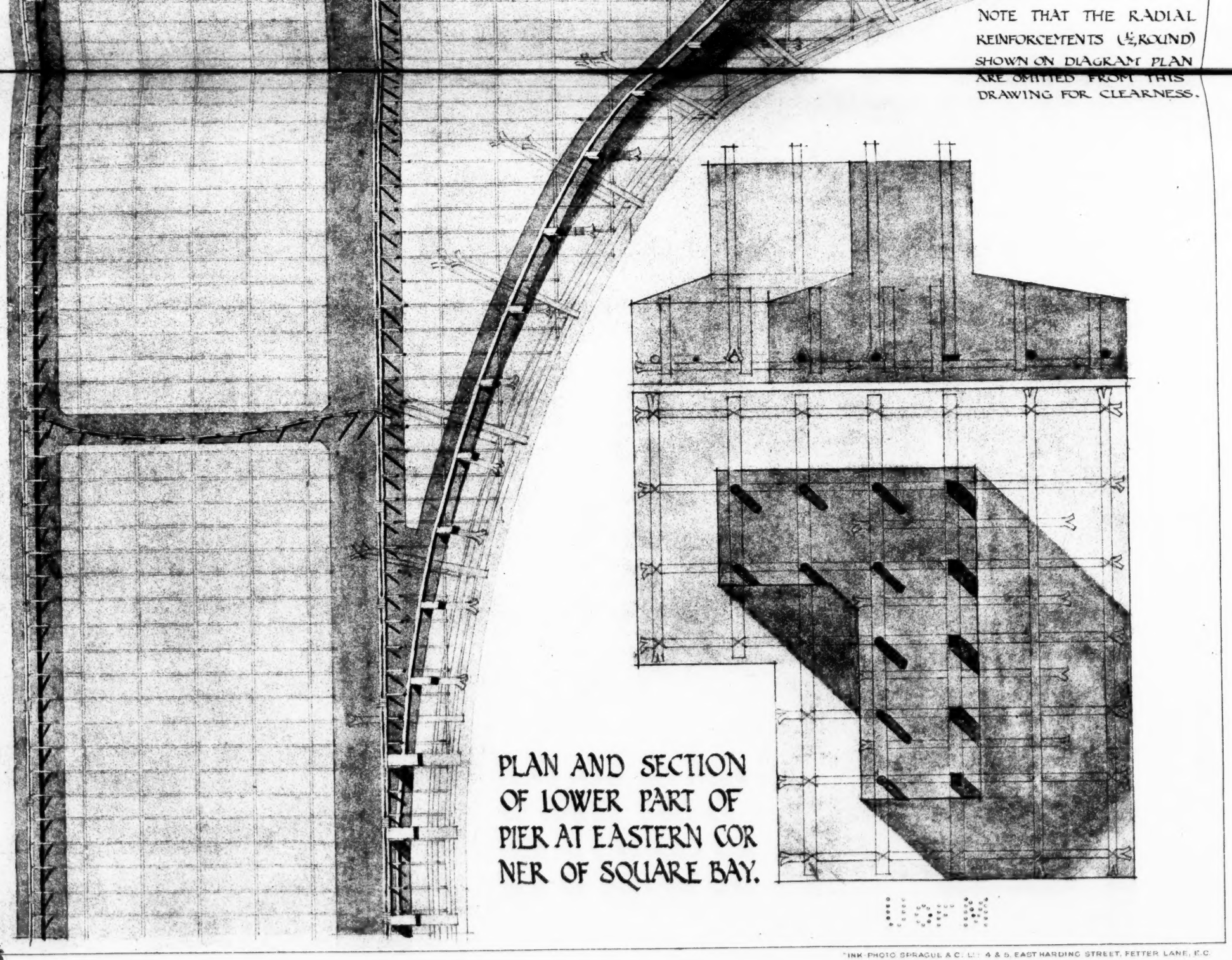
Ins: 12 0 1 2 3 4 5 Feet

BY MR. C. PERCIVAL WALGATE, A.R.I.B.A.

SECTION THROUGH DOME AND PENDENTIVE ON THE DIAGONAL LINE OF ITS PLAN, SHOWING REINFORCEMENT OF THE NEAR SLAB OF DOUBLE CROSS WALL.



NOTE THAT THE RADIAL REINFORCEMENTS (½" ROUND) SHOWN ON DIAGRAM PLAN ARE OMITTED FROM THIS DRAWING FOR CLEARNESS.



NOTE THAT THE RADIAL REINFORCEMENTS (½" ROUND) SHOWN ON DIAGRAM PLAN ARE OMITTED FROM THIS DRAWING FOR CLEARNESS.

PLAN AND SECTION OF LOWER PART OF PIER AT EASTERN COR NER OF SQUARE BAY.

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